
MICHIGAN DEPARTMENT OF COMMUNITY HEALTH

Division for Vital Records and Health Statistics

MICHIGAN BIRTH DEFECTS SURVEILLANCE REGISTRY

BIRTH DEFECTS IN MICHIGAN

All Cases Reported and Processed by April 15, 2008



LANSING, MICHIGAN
SEPTEMBER 2008

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Birth Defects Prevalence and Mortality Tables

Vital Records and Health Data Development Section Michigan Department of Community Health

The Michigan Birth Defects Registry was established as a statewide reporting system in 1992 to develop statistical data on birth defects; to conduct birth defect surveillance; to conduct studies of birth defect causes and prevention; and to insure the families of children with birth defects receive appropriate support services.

This statistical abstract provides a series of tables derived from the Michigan Birth Defects Registry, including birth defect prevalence data and birth defects-related mortality through 2005. Selected high points concerning these data are:

➤ Birth Defect Cases and Case Rates

During 2005, there were 10,762 cases of birth defects reported for children under one year of age for a rate of 840.0 cases per 10,000 resident live births. For the same children born during 2005, there were 12,095 cases reported for children under two years of age. This translates into a prevalence rate of 944.0 cases per 10,000 resident live births. Starting in 2000, significant efforts to improve reporting quality and completeness were initiated and the prevalence rate for two-year olds based upon reported cases has been above 800 per 10,000 for the past five years. (See Table 1.)

➤ Infant Death Rates

The infant death rate for children born in 2005 with a reportable birth defect is 25.8 per 1,000. This compares to an infant death rate of 7.4 per 1,000 for all resident infants born in Michigan during 2005. The relative risk of infant mortality among children with a birth defect was 4.5 in 2005. Both rates were lower in 2005 than in 2004, specifically 40.2 for children with birth defects and 8.3 for all children in 2003. (See Table 5-A.)

➤ Mortality Risk

A higher mortality risk can be expected for children with birth defects well beyond the first year of life. The cumulative mortality rate for resident children under 2 years of age born during 2004 was 8.3 per 1,000. Children born during 2004 with a birth defect had a cumulative mortality rate of 40.2 per 1,000 by the end of the second year of life. The mortality rate differential remains high throughout early childhood. For deaths under the age of 14 years, the experience of children born in 1992 indicates death rates of 66.0 per 1,000 for children with birth defects and 13.5 per 1,000 for children generally. The significantly higher mortality rate for children with birth defects underscores the seriousness of these conditions. (See Table 7-A.)

➤ Birth Defects By Diagnostic Code Groups

The most common diagnostic category reported in 2005 involves anomalies of the heart and circulatory system. Conditions affecting the musculoskeletal system are the next most commonly reported and anomalies of the genital and urinary systems are third. (See Table 8.) With regard to mortality, the number of deaths was highest in 2005 for children with heart and circulatory anomalies, followed by deaths to children with respiratory anomalies, with musculoskeletal anomaly associated deaths third highest. In contrast, infant mortality rates are highest for the chromosomal anomalies, respiratory anomalies and then central nervous system anomalies, based upon mortality among the 2000-2005 birth cohorts. (See Table 20.)

Table 9 also describes detailed condition information.

Data Quality Considerations

Changes in the number of birth defect cases may reflect a change in birth defect reporting or identification, rather than a change in trend. In particular, during the late 1990s, certain reporting and diagnostic practices contributed to the number of cases identified. The changes by year are delineated below:

1998: Increases in frequency of endocrine and metabolic disorders since 1998 are due to coordination of case reporting with the Newborn Metabolic Screening Program.

1997: The increased number of cases diagnosed with hearing deficiency in evidence since 1997 is related directly to a rapid increase in screening of Michigan newborns for hearing loss by birthing hospitals.

1996: A change in ICD-9 CM coding added unique codes for hypospadias and epispadias in October of 1996. This is the cause of the discontinuity in the reported frequencies for these conditions as listed under the diagnostic grouping "H04 Hypospadias and Epispadias (752.61, 752.62)."

Completeness and Over-reporting

The completeness of the data presented in these tables is affected by three factors that relate to data accuracy and comparability. It is essential that these factors be considered in using the information particularly when comparing frequencies over time or between geographic areas. These factors are:

Inconsistent or Incomplete Reporting - There is evidence that some of the facilities required to provide these reports are not reporting all the cases that should be reported. This problem can be expected to affect the completeness of the data within the specific regions of the state where these facilities are located. Very low birth defects frequencies and significant shifts in the number of reported cases can be expected for counties where such problems exist. Work beginning in 1999 to identify and resolve problems of under-reporting resulted in actual case counts increasing due to more complete information.

Over Reporting - The ongoing review of reports received has identified that in certain hospitals a report that a child has a reportable condition will be submitted, but the diagnosis is later ruled out and the original report is not corrected accordingly. This can cause an over count of the number of cases. This problem can be expected to vary by facility which, in turn, can lead to geographic variations in case frequency counts for those areas where such facilities are located.

Resident Interstate Information Exchange is Lacking - There is presently no exchange of data with neighboring states relative to children born with birth defects. Such exchange does occur with vital records and cancer information. The effect of this lack of a resident information exchange is that birth defects cases are unreported whenever a Michigan child is diagnosed with or treated for a birth defect in a facility that is not within Michigan. This problem will cause an undercount of the actual number of cases and can be expected to significantly affect the completeness of reports for counties whose residents commonly travel outside Michigan for their health care. It is due to the lack of interstate resident information exchange that rates are calculated only for resident children who are also born in Michigan.

Table 1
Michigan Birth Defect Cases and Prevalence Rates
Michigan Resident Children Born in Michigan
All Cases Reported and Processed by April 15, 2008
Live Births during 1992 through 2005

Birth Year	Resident Live Births Born in Michigan	Children Diagnosed within One Year	Prevalence Rate at One Year	Children Diagnosed within Two Years	Prevalence Rate at Two Years
All Years	1,887,369	132,463	701.8	150,766	798.8
1992	144,889	9,554	659.4	10,797	745.2
1993	141,061	9,739	690.4	10,720	760.0
1994	138,602	9,547	688.8	10,507	758.1
1995	135,043	8,282	613.3	9,404	696.4
1996	133,895	8,300	619.9	9,286	693.5
1997	134,314	8,295	617.6	9,357	696.7
1998	134,237	8,354	622.3	9,749	726.3
1999	134,456	9,085	675.7	10,609	789.0
2000	136,645	10,066	736.7	11,643	852.1
2001	133,856	10,514	785.5	12,250	915.2
2002	130,002	10,168	782.1	11,603	892.5
2003	132,059	10,128	766.9	11,451	867.1
2004	130,188	9,669	742.7	11,295	867.6
2005	128,122	10,762	840.0	12,095	944.0

Notes: Frequencies include all children reported with a birth defect who were born in Michigan and whose mother was a resident at the time of birth. This enables the calculation of birth defects prevalence rates. **Rates** are per 10,000 Michigan born resident live births. Birth defect statistics sometimes reflect trends related to data reporting or new testing. See Data Quality Considerations for further details. **Conditions** are reportable if identified within the first two years of a child's life. The prevalence frequencies and rates at one year and at two years serve to indicate the time from the birth of the child to the diagnosis of the condition.

Source: Michigan Birth Defects Registry, Division for Vital Records & Health Statistics, Michigan Department of Community Health Reports Processed through April 15, 2008

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Table 2
Birth Defects Cases by Time to Diagnosis and Birth Year
Michigan Resident Cases, 1992 - 2005

Time to Diagnosis	All Cases	Under 1 Year	Between 1 & 2 Years
All Cases	150,766	132,463	18,303
1992	10,797	9,554	1,243
1993	10,720	9,739	981
1994	10,507	9,547	960
1995	9,404	8,282	1,122
1996	9,286	8,300	986
1997	9,357	8,295	1,062
1998	9,749	8,354	1,395
1999	10,609	9,085	1,524
2000	11,643	10,066	1,577
2001	12,250	10,514	1,736
2002	11,603	10,168	1,435
2003	11,451	10,128	1,323
2004	11,295	9,669	1,626
2005	12,095	10,762	1,333

Notes:

Conditions are reportable if identified within the first two years of a child's life. The frequencies at one year and at two years serve to indicate the time from the birth of the child to the diagnosis of the condition.

Birth defect statistics sometimes reflect trends related to data reporting or new testing. See Data Quality Considerations for further details.

Source: Michigan Birth Defects Registry, Division for Vital Records & Health Statistics, Michigan Department of Community Health Reports Processed through April 15, 2008

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Table 3
Birth Defects Cases by Leading Diagnostic Groups and by Birth Year Interval
Michigan Resident Children 1994 through 2005
Three Year Moving Total Prevalence

Diagnostic Code Group	Birth Year Interval									
	1994 to 1996	1995 to 1997	1996 to 1998	1997 to 1999	1998 to 2000	1999 to 2001	2000 to 2002	2001 to 2003	2002 to 2004	2003 to 2005
Heart & Circulatory System	7,103	6,714	6,782	6,790	6,811	6,995	7,205	7,500	7,701	7,846
Congenital Anomalies	6,157	5,965	6,046	5,989	5,926	6,094	6,333	6,698	6,978	7,167
Other Conditions	1,493	1,232	1,296	1,477	1,581	1,497	1,376	1,283	1,194	1,137
Musculoskeletal System	5,011	4,724	4,766	4,992	5,447	6,033	6,490	6,525	6,234	6,199
Congenital Anomalies	4,997	4,714	4,756	4,984	5,442	6,026	6,483	6,514	6,225	6,192
Other Conditions	16	13	13	11	7	9	8	13	11	9
Genital & Urinary Systems	4,388	4,291	4,306	4,624	5,177	5,612	5,798	5,599	5,554	5,629
Congenital Anomalies	4,340	4,243	4,257	4,574	5,130	5,567	5,752	5,552	5,508	5,587
Other Conditions	134	136	143	137	137	134	138	135	140	129
Gastrointestinal System	4,362	4,278	4,273	4,221	4,248	4,421	4,427	4,324	4,057	3,961
Congenital Anomalies	1,873	1,850	1,900	1,896	1,912	1,956	1,969	1,916	1,808	1,728
Other Conditions	2,702	2,639	2,591	2,538	2,561	2,668	2,661	2,589	2,430	2,419
Eye	2,223	2,259	2,343	2,541	2,720	2,872	2,845	2,807	2,759	2,788
Congenital Anomalies	708	719	789	900	1,011	1,057	1,092	1,103	1,081	1,060
Other Conditions	1,585	1,618	1,640	1,748	1,842	1,962	1,916	1,878	1,846	1,884
Central Nervous System	1,523	1,518	1,511	1,663	1,790	1,935	1,985	1,996	2,028	2,046
Congenital Anomalies	1,094	1,093	1,082	1,197	1,282	1,402	1,462	1,477	1,508	1,506
Other Conditions	555	549	565	627	702	741	743	723	732	754
Maternal Exposures	1,403	1,172	1,063	973	1,001	1,049	1,018	846	695	682
Integument Anomalies	1,104	987	907	870	853	902	902	900	1,037	1,341
Respiratory System Anomalies	1,022	917	972	1,086	1,288	1,513	1,690	1,914	1,984	2,107
Other Reportable Conditions	3,472	3,399	3,485	3,890	4,493	5,365	5,984	6,142	5,767	5,637
One or More Reportable Conditions	25,482	24,260	24,324	25,045	26,780	28,901	30,015	29,776	29,038	29,679

Notes:

Frequencies include all children reported with a birth defect who were born in Michigan and whose mother was a resident of Michigan at the time of birth. This enables the calculation of birth defects prevalence rates. **Diagnoses** are coded using the 9th revision to the International Classification of Diseases - ICD 9 CM. Diagnostic Code Groupings used for congenital anomaly codes are as used by the Centers for Disease Control. (See Birth Defect Groups and ICD-9-CM Diagnosis Codes for the codes used to categorize birth defects.)

Conditions are reportable if identified within the first two years of a child's life. The frequencies at one year and at two years serve to indicate the time from the birth of the child to the diagnosis of the condition. Birth defect statistics sometimes reflect trends related to data reporting or new testing. See Data Quality Considerations for further details.

Source: Michigan Birth Defects Registry, Division for Vital Records & Health Statistics, Michigan Department of Community Health Reports Processed through April 15, 2008

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Table 4-A
Deaths Among Children with Birth Defects by Time to Death and Birth Year
Michigan Birth Defects Registry
All Cases Reported and Processed by April 15, 2008
Live Births during 1992 through 2005

Time to Death	Birth Year														
	All Deaths	1992	1993	1994	1995	1996	1997	1998	1999	2000	2001	2002	2003	2004	2005
All Ages	6,578	631	584	549	477	450	486	460	472	477	436	424	465	389	278
Under 1 Year	5,520	471	441	435	372	355	397	390	390	407	387	392	435	370	278
1 to 2 Years	380	42	43	33	27	25	24	22	38	31	33	19	24	19	---
2 to 3 Years	200	30	21	27	11	19	23	14	19	14	8	8	6	---	---
3 to 4 Years	115	18	15	9	9	9	12	7	13	12	6	5	---	---	---
4 to 5 Years	83	11	12	11	9	12	9	5	5	7	2	---	---	---	---
5 to 6 Years	58	11	3	2	9	10	4	8	5	6	---	---	---	---	---
6 to 7 Years	62	10	10	5	9	7	7	12	2	---	---	---	---	---	---
7 to 8 Years	47	5	9	7	12	4	8	2	---	---	---	---	---	---	---
8 to 9 Years	37	7	10	8	6	4	2	---	---	---	---	---	---	---	---
9 to 10 Years	30	7	3	7	8	5	---	---	---	---	---	---	---	---	---
10 to 11 Year	19	5	6	3	5	---	---	---	---	---	---	---	---	---	---
11 to 12 year	14	5	7	2	---	---	---	---	---	---	---	---	---	---	---
12 to 13 year	11	7	4	---	---	---	---	---	---	---	---	---	---	---	---
13 to 14 year	2	2	---	---	---	---	---	---	---	---	---	---	---	---	---

Notes: Death frequencies are the total deaths by age interval among children born with a birth defect who were born in Michigan and whose mother was a resident at the time of the child's birth. Birth defect statistics sometimes reflect trends related to data reporting or new testing. See Data Quality Considerations for further details.

Tripple dashes (---) indicate category not applicable.

Source: Michigan Birth Defects Registry, Division for Vital Records & Health Statistics, Michigan Department of Community Health Reports Processed through April 15, 2008
Mortality data includes all linked deaths identified through death year 2006.

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Table 4-B
Deaths Among Children by Time to Death and Birth Year
Michigan Live Birth Registry
All Cases Reported and Processed by April 15, 2008
Live Births during 1992 through 2005

Time to Death	Birth Year														
	All Deaths	1992	1993	1994	1995	1996	1997	1998	1999	2000	2001	2002	2003	2004	2005
All Ages	18,727	1,932	1,675	1,516	1,407	1,348	1,368	1,294	1,268	1,312	1,233	1,170	1,202	1,061	941
Under 1 Year	15,839	1,493	1,290	1,203	1,107	1,078	1,102	1,105	1,079	1,159	1,089	1,065	1,117	1,011	941
1 to 2 Years	857	90	87	76	65	63	66	57	74	57	68	47	57	50	---
2 to 3 Years	531	77	50	55	49	53	59	32	37	29	32	30	28	---	---
3 to 4 Years	376	57	42	30	42	34	35	26	30	28	24	28	---	---	---
4 to 5 Years	250	31	30	30	25	25	28	19	21	21	20	---	---	---	---
5 to 6 Years	213	30	35	20	22	31	18	20	19	18	---	---	---	---	---
6 to 7 Years	174	29	15	21	24	25	25	27	8	---	---	---	---	---	---
7 to 8 Years	122	20	26	15	19	14	20	8	---	---	---	---	---	---	---
8 to 9 Years	109	19	29	20	14	12	15	---	---	---	---	---	---	---	---
9 to 10 Years	87	19	15	15	25	13	---	---	---	---	---	---	---	---	---
10 to 11 Year	72	15	21	21	15	---	---	---	---	---	---	---	---	---	---
11 to 12 year	39	12	17	10	---	---	---	---	---	---	---	---	---	---	---
12 to 13 year	42	24	18	---	---	---	---	---	---	---	---	---	---	---	---
13 to 14 year	16	16	---	---	---	---	---	---	---	---	---	---	---	---	---

Notes: Death frequencies include deaths by age interval among all children who were born in Michigan and whose mother was a resident at the time of the child's birth. This enables the calculation of mortality rates among these children that are comparable with similar rates for children with birth defects. Tripple dashes (---) indicate category not applicable.

Source: Michigan Birth Defects Registry, Division for Vital Records & Health Statistics, Michigan Department of Community Health Reports Processed through April 15, 2008
Mortality data includes all linked deaths identified through death year 2006.

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Table 5-A
Mortality Rates Among at Risk Children with Birth Defects by Time to Death and Birth Year
Michigan Birth Defects Registry
All Cases Reported and Processed by April 15, 2008
Live Births during 1992 through 2005

Time to Death	Birth Year														
	Mortality Rate	1992	1993	1994	1995	1996	1997	1998	1999	2000	2001	2002	2003	2004	2005
All Ages	49.7	66.0	60.0	57.5	57.6	54.2	58.6	55.1	52.0	47.4	41.5	41.7	45.9	40.2	25.8
Under 1 Year	41.7	49.3	45.3	45.6	44.9	42.8	47.9	46.7	42.9	40.4	36.8	38.6	43.0	38.3	25.8
1 to 2 Years	2.9	4.4	4.4	3.5	3.3	3.0	2.9	2.6	4.2	3.1	3.1	1.9	2.4	2.0	---
2 to 3 Years	1.5	3.1	2.2	2.8	1.3	2.3	2.8	1.7	2.1	1.4	0.8	0.8	0.6	---	---
3 to 4 Years	0.9	1.9	1.5	0.9	1.1	1.1	1.4	0.8	1.4	1.2	0.6	*	---	---	---
4 to 5 Years	0.6	1.2	1.2	1.2	1.1	1.4	1.1	*	*	0.7	*	---	---	---	---
5 to 6 Years	0.4	1.2	*	*	1.1	1.2	*	1.0	*	0.6	---	---	---	---	---
6 to 7 Years	0.5	1.0	1.0	*	1.1	0.8	0.8	1.4	*	---	---	---	---	---	---
7 to 8 Years	0.4	*	0.9	0.7	1.4	*	1.0	*	---	---	---	---	---	---	---
8 to 9 Years	0.3	0.7	1.0	0.8	0.7	*	*	---	---	---	---	---	---	---	---
9 to 10 Years	0.2	0.7	*	0.7	1.0	*	---	---	---	---	---	---	---	---	---
10 to 11 Year	0.1	*	0.6	*	*	---	---	---	---	---	---	---	---	---	---
11 to 12 year	0.1	*	0.7	*	---	---	---	---	---	---	---	---	---	---	---
12 to 13 year	0.1	0.7	*	---	---	---	---	---	---	---	---	---	---	---	---
13 to 14 year	*	*	---	---	---	---	---	---	---	---	---	---	---	---	---

Notes: Rates are per 1,000 cases. **Birth defect mortality rates** divides all deaths of children reported with a birth defect and dying within the age interval, by the total number of births with reported birth defects and born by Michigan resident mothers in that birth year. Children who died were born in Michigan and their mother was a resident at time of birth. Birth defect statistics sometimes reflect trends related to data reporting or new testing. See Data Quality Considerations for further details.

Symbols: --- Category not applicable. * Figure does not meet standards of reliability or precision. • 0.0 Quantity more than zero but less than 0.05.

Source: Michigan Birth Defects Registry, Division for Vital Records & Health Statistics, Michigan Department of Community Health Reports Processed through April 15, 2008
Mortality data includes all linked deaths identified through death year 2006.

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Table 5-B
Childhood Mortality Rates by Time to Death and Birth Year
Michigan Live Birth Registry
All Cases Reported and Processed by April 15, 2008
Live Births during 1992 through 2005

Time to Death	Birth Year														
	Mortality Rate	1992	1993	1994	1995	1996	1997	1998	1999	2000	2001	2002	2003	2004	2005
All Ages	10.1	13.5	12.0	11.1	10.6	10.2	10.3	9.8	9.6	9.7	9.4	9.1	9.3	8.3	7.4
Under 1 Year	8.5	10.4	9.3	8.8	8.3	8.2	8.3	8.4	8.2	8.6	8.3	8.3	8.6	7.9	7.4
1 to 2 Years	0.5	0.6	0.6	0.6	0.5	0.5	0.5	0.4	0.6	0.4	0.5	0.4	0.4	0.4	---
2 to 3 Years	0.3	0.5	0.4	0.4	0.4	0.4	0.4	0.2	0.3	0.2	0.2	0.2	0.2	---	---
3 to 4 Years	0.2	0.4	0.3	0.2	0.3	0.3	0.3	0.2	0.2	0.2	0.2	0.2	---	---	---
4 to 5 Years	0.1	0.2	0.2	0.2	0.2	0.2	0.2	0.1	0.2	0.2	0.2	---	---	---	---
5 to 6 Years	0.1	0.2	0.3	0.1	0.2	0.2	0.1	0.2	0.1	0.1	---	---	---	---	---
6 to 7 Years	0.1	0.2	0.1	0.2	0.2	0.2	0.2	0.2	0.1	---	---	---	---	---	---
7 to 8 Years	0.1	0.1	0.2	0.1	0.1	0.1	0.2	0.1	---	---	---	---	---	---	---
8 to 9 Years	0.1	0.1	0.2	0.1	0.1	0.1	0.1	---	---	---	---	---	---	---	---
9 to 10 Years	0.0	0.1	0.1	0.1	0.2	0.1	---	---	---	---	---	---	---	---	---
10 to 11 Year	0.0	0.1	0.2	0.2	0.1	---	---	---	---	---	---	---	---	---	---
11 to 12 year	0.0	0.1	0.1	0.1	---	---	---	---	---	---	---	---	---	---	---
12 to 13 year	0.0	0.2	0.1	---	---	---	---	---	---	---	---	---	---	---	---
13 to 14 year	0.0	0.1	---	---	---	---	---	---	---	---	---	---	---	---	---

Notes: Rates are per 1,000 cases. **Mortality rates** divides all childhood deaths within the age interval by the total number of births born by Michigan resident mothers in that birth year. Children who died were born in Michigan and their mother was a resident at time of birth. Birth defect statistics sometimes reflect trends related to data reporting or new testing. See Data Quality Considerations for further details.

Symbols: --- Category not applicable. * Figure does not meet standards of reliability or precision. • 0.0 Quantity more than zero but less than 0.05.

Source: Michigan Birth Defects Registry, Division for Vital Records & Health Statistics, Michigan Department of Community Health
 Reports Processed through April 15, 2008
 Mortality data includes all linked deaths identified through death year 2006.

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Table 6-A
Cumulative Deaths Among Children with Birth Defects by Time to Death and Birth Year
Michigan Birth Defects Registry
All Cases Reported and Processed by April 15, 2008
Live Births during 1992 through 2005

Time to Death	Birth Year														
	All Years	1992	1993	1994	1995	1996	1997	1998	1999	2000	2001	2002	2003	2004	2005
All Ages	6,578	631	584	549	477	450	486	460	472	477	436	424	465	389	278
Under 1 Year	5,520	471	441	435	372	355	397	390	390	407	387	392	435	370	278
1 to 2 Years	5,900	513	484	468	399	380	421	412	428	438	420	411	459	389	---
2 to 3 Years	6,100	543	505	495	410	399	444	426	447	452	428	419	465	---	---
3 to 4 Years	6,215	561	520	504	419	408	456	433	460	464	434	424	---	---	---
4 to 5 Years	6,298	572	532	515	428	420	465	438	465	471	436	---	---	---	---
5 to 6 Years	6,356	583	535	517	437	430	469	446	470	477	---	---	---	---	---
6 to 7 Years	6,418	593	545	522	446	437	476	458	472	---	---	---	---	---	---
7 to 8 Years	6,465	598	554	529	458	441	484	460	---	---	---	---	---	---	---
8 to 9 Years	6,502	605	564	537	464	445	486	---	---	---	---	---	---	---	---
9 to 10 Years	6,532	612	567	544	472	450	---	---	---	---	---	---	---	---	---
10 to 11 Year	6,551	617	573	547	477	---	---	---	---	---	---	---	---	---	---
11 to 12 year	6,565	622	580	549	---	---	---	---	---	---	---	---	---	---	---
12 to 13 year	6,576	629	584	---	---	---	---	---	---	---	---	---	---	---	---
13 to 14 year	6,578	631	---	---	---	---	---	---	---	---	---	---	---	---	---

Notes: Death frequencies are the total deaths by age interval among children born with a birth defect who were born in Michigan and whose mother was a resident at the time of the child's birth. Birth defect statistics sometimes reflect trends related to data reporting or new testing. See Data Quality Considerations for further details. Tripple dashes (---) indicate category not applicable.

Source: Michigan Birth Defects Registry, Division for Vital Records & Health Statistics, Michigan Department of Community Health Reports Processed through April 15, 2008
Mortality data includes all linked deaths identified through death year 2006.

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Table 6-B
Cumulative Deaths Among Children by Time to Death and Birth Year
Michigan Live Birth Registry
All Cases Reported and Processed by April 15, 2008
Live Births during 1992 through 2005

Time to Death	Birth Year														
	All Years	1992	1993	1994	1995	1996	1997	1998	1999	2000	2001	2002	2003	2004	2005
All Ages	18,727	1,932	1,675	1,516	1,407	1,348	1,368	1,294	1,268	1,312	1,233	1,170	1,202	1,061	941
Under 1 Year	15,839	1,493	1,290	1,203	1,107	1,078	1,102	1,105	1,079	1,159	1,089	1,065	1,117	1,011	941
1 to 2 Years	16,696	1,583	1,377	1,279	1,172	1,141	1,168	1,162	1,153	1,216	1,157	1,112	1,174	1,061	---
2 to 3 Years	17,227	1,660	1,427	1,334	1,221	1,194	1,227	1,194	1,190	1,245	1,189	1,142	1,202	---	---
3 to 4 Years	17,603	1,717	1,469	1,364	1,263	1,228	1,262	1,220	1,220	1,273	1,213	1,170	---	---	---
4 to 5 Years	17,853	1,748	1,499	1,394	1,288	1,253	1,290	1,239	1,241	1,294	1,233	---	---	---	---
5 to 6 Years	18,066	1,778	1,534	1,414	1,310	1,284	1,308	1,259	1,260	1,312	---	---	---	---	---
6 to 7 Years	18,240	1,807	1,549	1,435	1,334	1,309	1,333	1,286	1,268	---	---	---	---	---	---
7 to 8 Years	18,362	1,827	1,575	1,450	1,353	1,323	1,353	1,294	---	---	---	---	---	---	---
8 to 9 Years	18,471	1,846	1,604	1,470	1,367	1,335	1,368	---	---	---	---	---	---	---	---
9 to 10 Years	18,558	1,865	1,619	1,485	1,392	1,348	---	---	---	---	---	---	---	---	---
10 to 11 Year	18,630	1,880	1,640	1,506	1,407	---	---	---	---	---	---	---	---	---	---
11 to 12 year	18,669	1,892	1,657	1,516	---	---	---	---	---	---	---	---	---	---	---
12 to 13 year	18,711	1,916	1,675	---	---	---	---	---	---	---	---	---	---	---	---
13 to 14 year	18,727	1,932	---	---	---	---	---	---	---	---	---	---	---	---	---

Notes: Death frequencies include deaths by age interval among all children who were born in Michigan and whose mother was a resident at the time of the child's birth. This enables the calculation of mortality rates among these children that are comparable with similar rates for children with birth defects. Triple dashes (---) indicate category not applicable.

Source: Michigan Birth Defects Registry, Division for Vital Records & Health Statistics, Michigan Department of Community Health Reports Processed through April 15, 2008
Mortality data includes all linked deaths identified through death year 2006.

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Table 7-A
Cumulative Mortality Rates Among at Risk Children with
Birth Defects by Time to Death and Birth Year
Michigan Birth Defects Registry
All Cases Reported and Processed by April 15, 2008
Live Births during 1992 through 2005

Time to Death	Adjusted Cumulative Rate	Birth Year													
		1992	1993	1994	1995	1996	1997	1998	1999	2000	2001	2002	2003	2004	2005
All Ages	54.1	66.0	60.0	57.5	57.6	54.2	58.6	55.1	52.0	47.4	41.5	41.7	45.9	40.2	25.8
Under 1 Year	41.7	49.3	45.3	45.6	44.9	42.8	47.9	46.7	42.9	40.4	36.8	38.6	43.0	38.3	25.8
1 to 2 Years	44.8	53.7	49.7	49.0	48.2	45.8	50.8	49.3	47.1	43.5	39.9	40.4	45.3	40.2	---
2 to 3 Years	46.6	56.8	51.9	51.8	49.5	48.1	53.5	51.0	49.2	44.9	40.7	41.2	45.9	---	---
3 to 4 Years	47.7	58.7	53.4	52.8	50.6	49.2	55.0	51.8	50.6	46.1	41.3	41.7	---	---	---
4 to 5 Years	48.6	59.9	54.6	53.9	51.7	50.6	56.1	52.4	51.2	46.8	41.5	---	---	---	---
5 to 6 Years	49.3	61.0	54.9	54.2	52.8	51.8	56.5	53.4	51.7	47.4	---	---	---	---	---
6 to 7 Years	50.2	62.1	56.0	54.7	53.9	52.7	57.4	54.8	52.0	---	---	---	---	---	---
7 to 8 Years	51.0	62.6	56.9	55.4	55.3	53.1	58.3	55.1	---	---	---	---	---	---	---
8 to 9 Years	51.6	63.3	57.9	56.2	56.0	53.6	58.6	---	---	---	---	---	---	---	---
9 to 10 Years	52.3	64.1	58.2	57.0	57.0	54.2	---	---	---	---	---	---	---	---	---
10 to 11 Year	52.8	64.6	58.8	57.3	57.6	---	---	---	---	---	---	---	---	---	---
11 to 12 year	53.3	65.1	59.6	57.5	---	---	---	---	---	---	---	---	---	---	---
12 to 13 year	53.9	65.8	60.0	---	---	---	---	---	---	---	---	---	---	---	---
13 to 14 year	54.1	66.0	---	---	---	---	---	---	---	---	---	---	---	---	---

Notes: Rates are per 1,000 Live Births. Birth defect cumulative mortality rates are calculated by dividing all deaths of children reported with a birth defect and dying within or before the age interval, by the total number of births with reported birth defects and born by Michigan resident mothers in that birth year. Children who died were born in Michigan and their mother was a resident at time of birth. Birth defect statistics sometimes reflect trends related to data reporting or new testing. See Data Quality Considerations for further details.
 Tripple dashes (---) indicate category not applicable.

Source: Michigan Birth Defects Registry, Division for Vital Records & Health Statistics, Michigan Department of Community Health Reports Processed through April 15, 2008
 Mortality data includes all linked deaths identified through death year 2006.

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Table 7-B
Childhood Cumulative Mortality Rates by Time to Death and Birth Year
Michigan Live Birth Registry
All Cases Reported and Processed by April 15, 2008
Live Births during 1992 through 2005

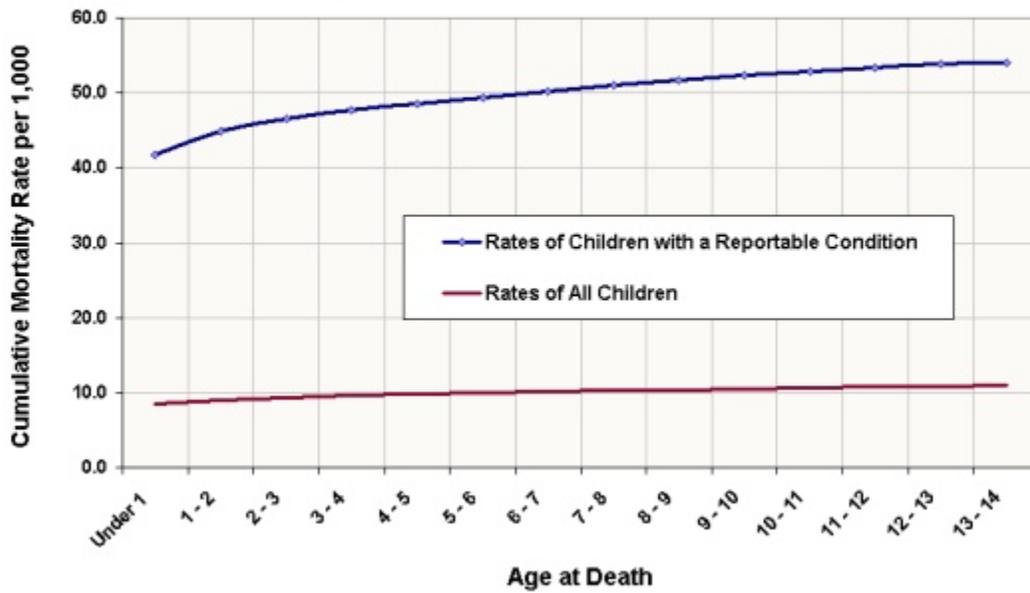
Time to Death	Adjusted Cumulative Rate	Birth Year													
		1992	1993	1994	1995	1996	1997	1998	1999	2000	2001	2002	2003	2004	2005
All Ages	11.0	13.5	12.0	11.1	10.6	10.2	10.3	9.8	9.6	9.7	9.4	9.1	9.3	8.3	7.4
Under 1 Year	8.5	10.4	9.3	8.8	8.3	8.2	8.3	8.4	8.2	8.6	8.3	8.3	8.6	7.9	7.4
1 to 2 Years	9.0	11.1	9.9	9.4	8.8	8.6	8.8	8.8	8.7	9.0	8.8	8.7	9.1	8.3	---
2 to 3 Years	9.3	11.6	10.3	9.8	9.2	9.0	9.3	9.0	9.0	9.2	9.0	8.9	9.3	---	---
3 to 4 Years	9.6	12.0	10.6	10.0	9.5	9.3	9.5	9.2	9.2	9.4	9.2	9.1	---	---	---
4 to 5 Years	9.8	12.2	10.8	10.2	9.7	9.5	9.7	9.4	9.4	9.6	9.4	---	---	---	---
5 to 6 Years	10.0	12.4	11.0	10.3	9.8	9.7	9.9	9.5	9.5	9.7	---	---	---	---	---
6 to 7 Years	10.1	12.6	11.1	10.5	10.0	9.9	10.1	9.7	9.6	---	---	---	---	---	---
7 to 8 Years	10.2	12.8	11.3	10.6	10.2	10.0	10.2	9.8	---	---	---	---	---	---	---
8 to 9 Years	10.4	12.9	11.5	10.8	10.3	10.1	10.3	---	---	---	---	---	---	---	---
9 to 10 Years	10.5	13.1	11.6	10.9	10.4	10.2	---	---	---	---	---	---	---	---	---
10 to 11 Year	10.6	13.2	11.8	11.0	10.6	---	---	---	---	---	---	---	---	---	---
11 to 12 year	10.7	13.2	11.9	11.1	---	---	---	---	---	---	---	---	---	---	---
12 to 13 year	10.9	13.4	12.0	---	---	---	---	---	---	---	---	---	---	---	---
13 to 14 year	11.0	13.5	---	---	---	---	---	---	---	---	---	---	---	---	---

Notes: Rates are per 1,000 Live Births. **Mortality rates** are calculated by dividing all childhood deaths within or before the age interval by the total number of births born by Michigan resident mothers in that birth year. Children who died were born in Michigan and their mother was a resident at time of birth. Birth defect statistics sometimes reflect trends related to data reporting or new testing. See Data Quality Considerations for further details. Triple dashes (---) indicate category not applicable.

Source: Michigan Birth Defects Registry, Division for Vital Records & Health Statistics, Michigan Department of Community Health Reports Processed through April 15, 2008
Mortality data includes all linked deaths identified through death year 2006.

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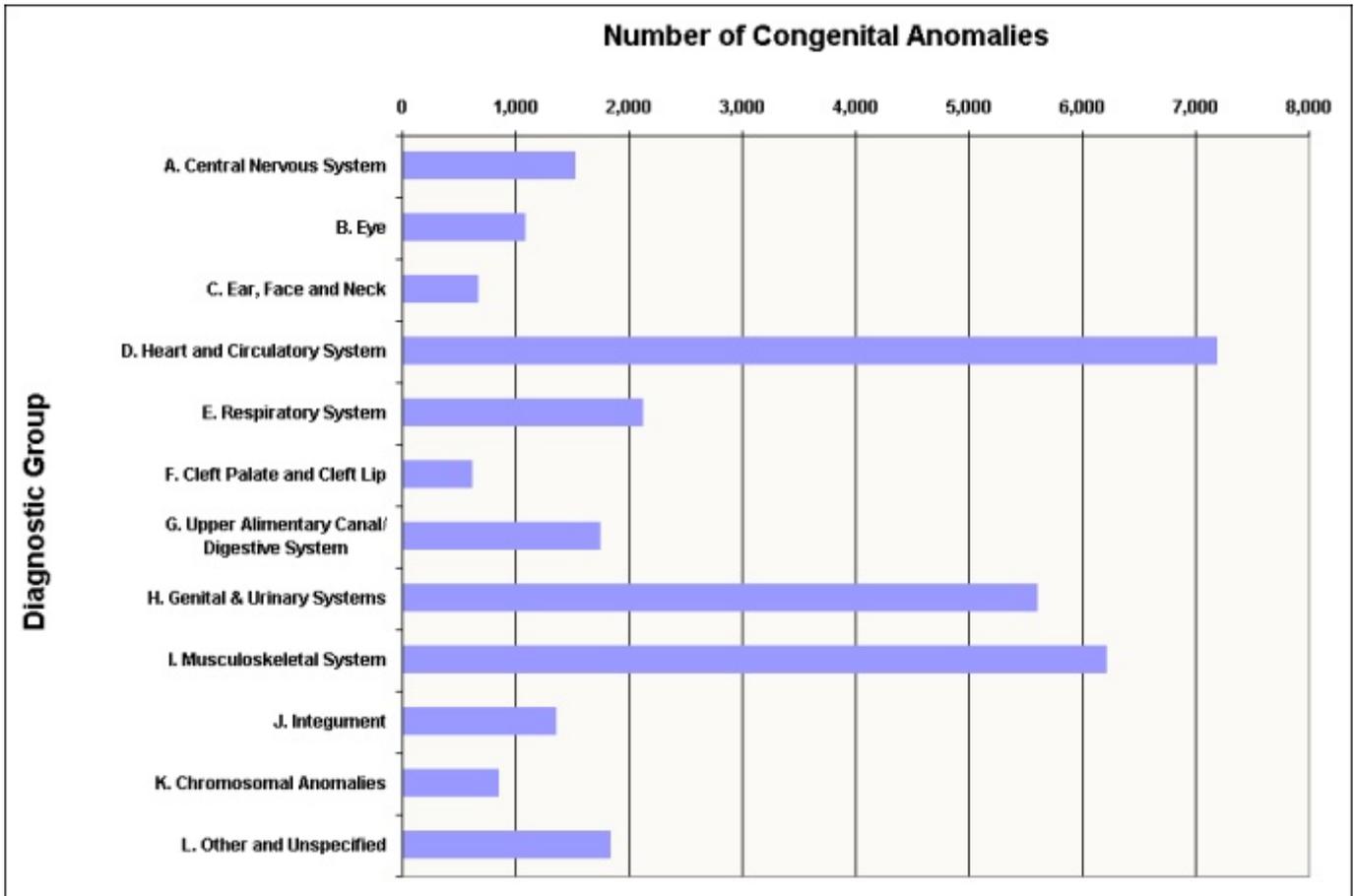
**Figure 1. Cumulative Mortality Rates,
Michigan Children with a Reportable Condition versus All Children
Michigan Births between 1992 and 2005**



Source: Michigan Birth Defects Registry, Division for Vital Records & Health Statistics, Michigan Department of Community Health Reports Processed through April 15, 2008
Mortality data includes all linked deaths identified through death year 2006.

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Figure 2-A
Total Congenital Anomalies by Summary Diagnostic Code Group, 2003-2005 ,
Michigan Resident Children Born in Michigan
Cases Diagnosed within One Year from Birth



Notes:

Frequencies include all children reported with a birth defect who were born in Michigan and whose mother was a resident at the time of birth.

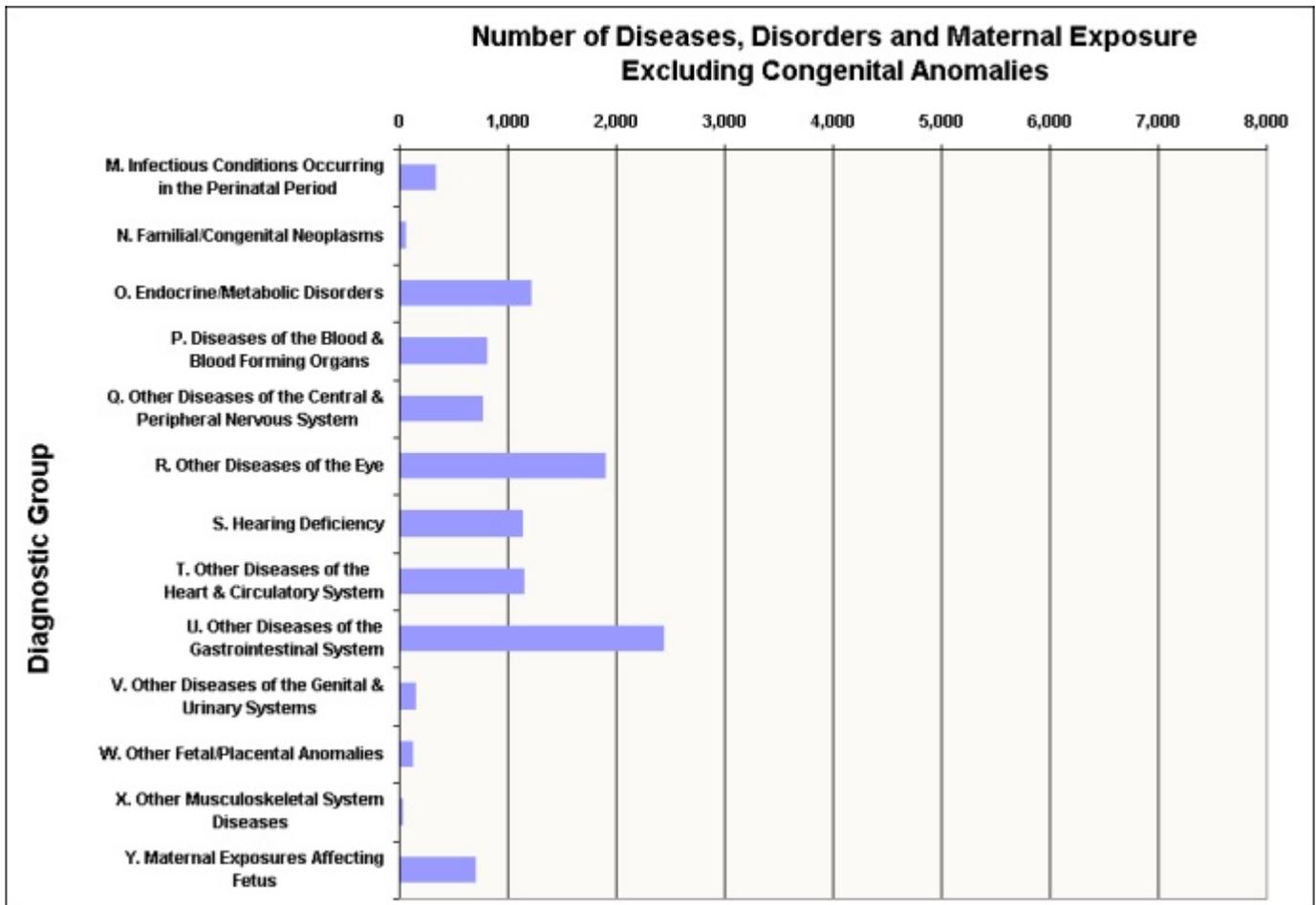
Conditions are reportable if identified within the first two years of a child's life. The prevalence frequencies in this table represent cases diagnosed within the first year of life.

Diagnoses are coded using the 9th revision to the International Classification of Diseases - ICD 9 CM. Diagnostic Code Groupings used for congenital anomaly codes are as used by the Centers for Disease Control. (See Birth Defect Groups and ICD-9-CM Diagnosis Codes for the codes used to categorize birth defects.)

Source: Michigan Birth Defects Registry, Division for Vital Records & Health Statistics, Michigan Department of Community Health Reports Processed through April 15, 2008

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Figure 2-B
Total Diseases, Disorders and Maternal Exposures by
Summary Diagnostic Code Group, 2003-2005,
Michigan Resident Children Born in Michigan
Cases Diagnosed within One Year from Birth



Notes:

Frequencies include all children reported with a birth defect who were born in Michigan and whose mother was a resident at the time of birth.

Conditions are reportable if identified within the first two years of a child's life. The prevalence frequencies in this table represent cases diagnosed within the first year of life.

Diagnoses are coded using the 9th revision to the International Classification of Diseases - ICD 9 CM. Diagnostic Code Groupings used for congenital anomaly codes are as used by the Centers for Disease Control. (See Birth Defect Groups and ICD-9-CM Diagnosis Codes for the codes used to categorize birth defects.)

Source: Michigan Birth Defects Registry, Division for Vital Records & Health Statistics, Michigan Department of Community Health Reports Processed through April 15, 2008

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Table 8
Birth Defects by Summary Diagnostic Code Group and Birth Year,
Michigan Resident Children Born in Michigan During 1992,1995 and 1999-2005,
Cases Diagnosed within One Year from Birth

Congenital Anomalies (740 - 759)

Diagnostic Grouping	1992 to 2005	1992	1995	1999 to 2005	1999	2000	2001	2002	2003	2004	2005
A Congenital Anomalies of the Central Nervous System	6,127	446	382	3,406	438	473	491	498	488	522	496
B Congenital Anomalies of the Eye	4,315	280	245	2,488	336	360	361	371	371	339	350
C Congenital Anomalies of the Ear, Face and Neck	3,006	273	215	1,467	171	208	220	224	209	188	247
D Congenital Anomalies of the Heart and Circulatory System	29,552	1,860	1,879	15,499	1,999	1,967	2,128	2,238	2,332	2,408	2,427
E Congenital Anomalies of the Respiratory System	6,753	446	302	4,208	411	520	582	588	744	652	711
F Cleft Palate and Cleft Lip	2,837	232	194	1,415	224	197	207	196	214	185	192
G Congenital Anomalies of the Upper Alimentary Canal/ Digestive System	8,935	713	591	4,333	636	635	685	649	582	577	569
H Congenital Anomalies of the Genital and Urinary Systems	23,238	1,493	1,420	13,009	1,670	2,026	1,871	1,855	1,826	1,827	1,934
I Congenital Anomalies of the Musculoskeletal System	26,771	2,121	1,570	14,451	1,776	2,054	2,196	2,233	2,085	1,907	2,200
J Congenital Anomalies of the Integument	5,035	420	336	2,543	300	297	305	300	295	442	604
K Chromosomal Anomalies	3,800	315	229	1,964	291	280	284	274	281	276	278
L Other and Unspecified Congenital Anomalies	5,834	364	164	4,075	363	567	710	617	660	587	571

Table 8
Birth Defects by Summary Diagnostic Code Group and Birth Year,
Michigan Resident Children Born in Michigan During 1992,1995 and 1999-2005,
Cases Diagnosed within One Year from Birth
(Continued)

Other Reportable Conditions

Diagnostic Grouping	1992 to 2005	1992	1995	1999 to 2005	1999	2000	2001	2002	2003	2004	2005
M Infectious Conditions Occurring in the Perinatal Period	2,023	209	131	935	131	154	169	163	148	89	81
N Familial/Congenital Neoplasms	164	7	9	97	16	18	14	13	13	8	15
O Endocrine/Metabolic Disorders	4,985	265	272	2,922	430	453	423	421	412	349	434
P Diseases of the Blood & Blood Forming Organs	3,099	191	222	1,688	208	236	205	250	258	237	294
Q Other Diseases of the Central and Peripheral Nervous System	3,043	183	187	1,746	249	250	242	251	230	251	273
R Other Diseases of the Eye	7,934	325	497	4,481	681	642	639	635	604	607	673
S Hearing Deficiency	3,084	31	36	2,711	180	332	515	570	422	346	346
T Other Diseases of the Heart & Circulatory System	6,761	588	442	3,078	565	510	422	444	417	333	387
U Other Diseases of the Gastrointestinal System	12,362	1,004	881	5,922	842	886	940	835	814	781	824
V Other Diseases of the Genital and Urinary Systems	603	33	40	308	41	49	44	45	46	49	34
W Other Fetal/Placental Anomalies	120	2	-	114	1	-	-	2	2	2	107
X Other Musculoskeletal System Diseases	57	9	1	21	4	2	3	3	7	1	1
Y Maternal Exposures Affecting Fetus	4,934	345	433	2,005	305	372	372	274	200	221	261
One or More Reportable Diagnosis	129,047	9,352	8,046	68,520	8,826	9,844	10,231	9,940	9,605	9,493	10,581

Notes:

Frequencies include all children reported with a birth defect who were born in Michigan and whose mother was a resident at the time of birth. This enables the calculation of birth defect prevalence rates. Birth defect statistics sometimes reflect trends related to data reporting or new testing. See Data Quality Considerations for further details.

Columns do not add to total live births diagnosed with birth defects. Some cases include diagnosis with multiple birth defects, and each birth defect diagnosis was counted in each appropriate grouping.

Conditions are reportable if identified within the first two years of a child's life. The prevalence frequencies in this table represent cases diagnosed within the first year of life.

Diagnoses are coded using the 9th revision to the International Classification of Diseases - ICD 9 CM. Diagnostic Code Groupings used for congenital anomaly codes are as used by the Centers for Disease Control. (See Birth Defect Groups and ICD-9-CM Diagnosis Codes for the codes used to categorize birth defects.)

Source: Michigan Birth Defects Registry, Division for Vital Records & Health Statistics, Michigan Department of Community Health Reports Processed through April 15, 2008

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Table 9
Birth Defects by Detailed Diagnostic Code Group and Birth Year,
Michigan Resident Children Born in Michigan During 1992,1995 and 1999-2005,
Cases Diagnosed within One Year from Birth

Congenital Anomalies (740 - 759)

Diagnostic Grouping	1992 to 2005	1992	1995	1999 to 2005	1999	2000	2001	2002	2003	2004	2005
A Congenital Anomalies of the Central Nervous System	6,127	446	382	3,406	438	473	491	498	488	522	496
A01 Anencephalus	186	12	13	105	12	21	7	15	18	20	12
A02 Spina Bifida w/o Anencephaly	776	55	66	382	52	48	70	44	49	61	58
A03 Hydrocephalus w/o Spina Bifida	1,709	147	106	891	134	134	145	125	114	126	113
A04 Encephalocele	193	21	12	94	10	15	10	12	13	13	21
A05 Microcephalus	1,409	92	90	836	104	120	116	137	118	123	118
A99. All Other CNS Anomalies	2,865	197	163	1,682	198	201	227	248	268	272	268
Diagnostic Grouping	1992 to 2005	1992	1995	1999 to 2005	1999	2000	2001	2002	2003	2004	2005
B Congenital Anomalies of the Eye	4,315	280	245	2,488	336	360	361	371	371	339	350
B01 Anophthalmos/Microphthalmos	311	20	22	172	20	18	28	33	26	22	25
B02 Congenital Cataract	395	19	27	221	29	35	28	33	36	27	33
B03 Aniridia	38	1	2	24	1	3	3	2	4	6	5
B99. All Other Congenital Anomalies of the Eye	3,840	250	207	2,245	302	327	329	330	334	309	314
Diagnostic Grouping	1992 to 2005	1992	1995	1999 to 2005	1999	2000	2001	2002	2003	2004	2005
C Congenital Anomalies of the Ear, Face and Neck	3,006	273	215	1,467	171	208	220	224	209	188	247
C01 Anotia/Microtia	177	12	9	113	19	14	16	17	19	17	11
C99. All Other Congenital Anomalies of the Ear, Face and Neck	2,943	267	210	1,431	163	203	216	216	207	182	244

Table 9
Birth Defects by Detailed Diagnostic Code Group and Birth Year,
Michigan Resident Children Born in Michigan During 1992,1995 and 1999-2005,
Cases Diagnosed within One Year from Birth
(Continued)

Congenital Anomalies (740 - 759)

Diagnostic Grouping	1992 to 2005	1992	1995	1999 to 2005	1999	2000	2001	2002	2003	2004	2005
D Congenital Anomalies of the Heart and Circulatory System	29,552	1,860	1,879	15,499	1,999	1,967	2,128	2,238	2,332	2,408	2,427
D01 Common Truncus	220	17	9	106	15	8	15	13	24	15	16
D02 Transposition of Great Vessels	864	68	52	430	53	64	55	65	55	55	83
D03 Tetralogy of Fallot	969	74	64	455	70	62	61	64	78	55	65
D04 Ventricular Septal Defect	7,335	571	480	3,557	513	483	467	504	526	514	550
D05 Atrial Septal Defect	10,685	432	641	6,348	728	736	784	884	974	1,076	1,166
D06 Endocardial Cushion Defect	788	52	49	404	50	43	52	59	76	61	63
D07 Pulmonary Valve Atresia and Stenosis	1,976	133	111	1,010	155	135	156	122	154	118	170
D08 Tricuspid Valve Atresia and Stenosis	240	17	13	130	16	15	27	23	20	9	20
D09 Ebstein's Anomaly	246	13	5	176	21	35	46	35	18	9	12
D10 Aortic Valve Stenosis	419	34	22	236	41	38	25	30	33	35	34
D11 Hypoplastic Left Heart Syndrome	695	54	47	364	50	44	63	52	53	46	56
D12 Patent Ductus Arteriosus	8,919	621	631	4,401	558	487	575	602	745	700	734
D13 Coarctation of Aorta	1,011	67	57	548	87	80	67	80	81	76	77
D14 Pulmonary Artery Anomalies	3,216	149	176	1,839	239	243	284	284	278	228	283
D99. All Other Congenital Anomalies of the Heart and Circulatory System	12,707	842	742	6,614	864	843	878	979	991	1,116	943
Diagnostic Grouping	1992 to 2005	1992	1995	1999 to 2005	1999	2000	2001	2002	2003	2004	2005
E Congenital Anomalies of the Respiratory System	6,753	446	302	4,208	411	520	582	588	744	652	711
E01 Lung Agenesis/Hypoplasia	1,183	78	61	683	93	86	70	79	153	108	94
E02 Choanal Atresia	293	25	15	156	20	20	27	29	18	19	23
E99. All Other Congenital Anomalies of the Respiratory System	5,691	374	246	3,607	325	441	517	523	611	557	633
Diagnostic Grouping	1992 to 2005	1992	1995	1999 to 2005	1999	2000	2001	2002	2003	2004	2005
F Cleft Palate and Cleft Lip	2,837	232	194	1,415	224	197	207	196	214	185	192
F01 Cleft Palate	1,010	80	75	489	79	69	75	66	68	61	71
F02 Cleft Lip w and w/o Cleft Palate	1,827	152	119	926	145	128	132	130	146	124	121

Table 9
Birth Defects by Detailed Diagnostic Code Group and Birth Year,
Michigan Resident Children Born in Michigan During 1992,1995 and 1999-2005,
Cases Diagnosed within One Year from Birth
(Continued)

Congenital Anomalies (740 - 759)

Diagnostic Grouping	1992 to 2005	1992	1995	1999 to 2005	1999	2000	2001	2002	2003	2004	2005
G Congenital Anomalies of the Upper Alimentary Canal/ Digestive System	8,935	713	591	4,333	636	635	685	649	582	577	569
G01 Esophageal Atresia/ Tracheoesophageal Fistula	665	40	51	289	45	31	42	42	46	42	41
G02 Rectal and Large Intestinal Atresia/Stenosis	853	74	64	423	62	71	58	61	59	56	56
G03 Pyloric Stenosis	3,339	299	200	1,599	256	224	282	245	207	200	185
G04 Hirshsprung's Disease (congenital megacolon)	566	44	29	284	47	39	44	40	41	40	33
G05 Biliary Atresia	231	17	21	102	17	16	15	9	15	18	12
G99. Other Cong. Anomalies of Upper Alimentary Canal / Digestive System	3,897	282	269	1,938	251	298	279	294	269	261	286
Diagnostic Grouping	1992 to 2005	1992	1995	1999 to 2005	1999	2000	2001	2002	2003	2004	2005
H Congenital Anomalies of the Genital and Urinary Systems	23,238	1,493	1,420	13,009	1,670	2,026	1,871	1,855	1,826	1,827	1,934
H01 Renal Agenesis/Hypoplasia	993	66	64	513	75	93	65	78	76	60	66
H02 Bladder Exstrophy	75	6	7	35	3	3	10	6	5	2	6
H03 Obstructive Genitourinary Defects	3,461	220	219	1,986	231	263	284	293	301	295	319
H04 Hypospadias & Epispadias	3,804	2	67	2,849	402	452	388	398	383	366	460
H99. All Other Congenital Anomalies of the Genital & Urinary Systems	20,059	1,444	1,366	10,776	1,326	1,665	1,559	1,538	1,539	1,558	1,591
Diagnostic Grouping	1992 to 2005	1992	1995	1999 to 2005	1999	2000	2001	2002	2003	2004	2005
I Congenital Anomalies of the Musculoskeletal System	26,771	2,121	1,570	14,451	1,776	2,054	2,196	2,233	2,085	1,907	2,200
I01 Upper Limb Reduction Deformities	471	62	34	212	33	37	33	34	32	20	23
I02 Lower Limb Reduction Deformities	300	23	21	166	20	19	27	24	23	25	28
I03 Gastroschisis/Omphalocele	915	58	70	443	56	58	66	47	66	73	77
I04 Congenital Hip Dislocation	2,555	254	186	1,177	165	193	202	198	168	140	111
I05 Diaphragmatic Hernia	570	51	41	283	45	38	41	31	47	45	36
I99. All Other Congenital Anomalies of the Musculoskeletal System	23,286	1,762	1,301	12,912	1,540	1,796	1,944	2,033	1,871	1,710	2,018

Table 9
Birth Defects by Detailed Diagnostic Code Group and Birth Year,
Michigan Resident Children Born in Michigan During 1992,1995 and 1999-2005,
Cases Diagnosed within One Year from Birth
(Continued)

Congenital Anomalies (740 - 759)

Diagnostic Grouping	1992 to 2005	1992	1995	1999 to 2005	1999	2000	2001	2002	2003	2004	2005
J Congenital Anomalies of the Integument	5,035	420	336	2,543	300	297	305	300	295	442	604
Diagnostic Grouping	1992 to 2005	1992	1995	1999 to 2005	1999	2000	2001	2002	2003	2004	2005
K Chromosomal Anomalies	3,800	315	229	1,964	291	280	284	274	281	276	278
K01 Trisomy 13	196	22	11	89	13	15	10	9	14	12	16
K02 Down Syndrome	2,147	173	129	1,120	152	143	171	169	143	172	170
K03 Trisomy 18	256	22	18	137	26	14	20	20	27	15	15
K99. All Other Chromosomal Anomalies	1,380	108	78	734	116	126	99	98	116	85	94
Diagnostic Grouping	1992 to 2005	1992	1995	1999 to 2005	1999	2000	2001	2002	2003	2004	2005
L Other and Unspecified Congenital Anomalies	5,834	364	164	4,075	363	567	710	617	660	587	571

Table 9
Birth Defects by Detailed Diagnostic Code Group and Birth Year,
Michigan Resident Children Born in Michigan During 1992,1995 and 1999-2005,
Cases Diagnosed within One Year from Birth
(Continued)

Other Reportable Conditions

Diagnostic Grouping	1992 to 2005	1992	1995	1999 to 2005	1999	2000	2001	2002	2003	2004	2005
M Infectious Conditions Occurring in the Perinatal Period	2,023	209	131	935	131	154	169	163	148	89	81
M01 Syphilis	671	159	48	118	15	18	26	12	31	3	13
M02 Other Infections	1,358	54	83	817	116	136	143	151	117	86	68
Diagnostic Grouping	1992 to 2005	1992	1995	1999 to 2005	1999	2000	2001	2002	2003	2004	2005
N Familial/Congenital Neoplasms	164	7	9	97	16	18	14	13	13	8	15
Diagnostic Grouping	1992 to 2005	1992	1995	1999 to 2005	1999	2000	2001	2002	2003	2004	2005
O Endocrine/Metabolic Disorders	4,985	265	272	2,922	430	453	423	421	412	349	434
Diagnostic Grouping	1992 to 2005	1992	1995	1999 to 2005	1999	2000	2001	2002	2003	2004	2005
P Diseases of the Blood & Blood Forming Organs	3,099	191	222	1,688	208	236	205	250	258	237	294
Diagnostic Grouping	1992 to 2005	1992	1995	1999 to 2005	1999	2000	2001	2002	2003	2004	2005
Q Other Diseases of the Central and Peripheral Nervous System	3,043	183	187	1,746	249	250	242	251	230	251	273
Diagnostic Grouping	1992 to 2005	1992	1995	1999 to 2005	1999	2000	2001	2002	2003	2004	2005
R Other Diseases of the Eye	7,934	325	497	4,481	681	642	639	635	604	607	673
Diagnostic Grouping	1992 to 2005	1992	1995	1999 to 2005	1999	2000	2001	2002	2003	2004	2005
S Hearing Deficiency	3,084	31	36	2,711	180	332	515	570	422	346	346
Diagnostic Grouping	1992 to 2005	1992	1995	1999 to 2005	1999	2000	2001	2002	2003	2004	2005
T Other Diseases of the Heart & Circulatory System	6,761	588	442	3,078	565	510	422	444	417	333	387

Table 9
Birth Defects by Detailed Diagnostic Code Group and Birth Year,
Michigan Resident Children Born in Michigan During 1992,1995 and 1999-2005,
Cases Diagnosed within One Year from Birth
(Continued)

Other Reportable Conditions

Diagnostic Grouping	1992 to 2005	1992	1995	1999 to 2005	1999	2000	2001	2002	2003	2004	2005
U Other Diseases of the Gastrointestinal System	12,362	1,004	881	5,922	842	886	940	835	814	781	824
Diagnostic Grouping	1992 to 2005	1992	1995	1999 to 2005	1999	2000	2001	2002	2003	2004	2005
V Other Diseases of the Genital and Urinary Systems	603	33	40	308	41	49	44	45	46	49	34
Diagnostic Grouping	1992 to 2005	1992	1995	1999 to 2005	1999	2000	2001	2002	2003	2004	2005
W Other Fetal/Placental Anomalies	120	2	-	114	1	-	-	2	2	2	107
Diagnostic Grouping	1992 to 2005	1992	1995	1999 to 2005	1999	2000	2001	2002	2003	2004	2005
X Other Musculoskeletal System Diseases	57	9	1	21	4	2	3	3	7	1	1
Diagnostic Grouping	1992 to 2005	1992	1995	1999 to 2005	1999	2000	2001	2002	2003	2004	2005
Y Maternal Exposures Affecting Fetus	4,934	345	433	2,005	305	372	372	274	200	221	261
Y01 Fetal Alcohol Syndrome	394	35	43	146	34	26	23	19	13	14	17
Y99. Other Maternal Exposures Affecting the Fetus	4,643	320	402	1,894	283	350	358	260	189	208	246
Diagnostic Grouping	1992 to 2005	1992	1995	1999 to 2005	1999	2000	2001	2002	2003	2004	2005
One or More Reportable Diagnosis	129,047	9,352	8,046	68,520	8,826	9,844	10,231	9,940	9,605	9,493	10,581

Notes:

Frequencies include all children reported with a birth defect who were born in Michigan and whose mother was a resident at the time of birth. This enables the calculation of birth defect prevalence rates. Birth defect statistics sometimes reflect trends related to data reporting or new testing. See Data Quality Considerations for further details.

Columns do not add to summary group totals, nor column totals, due to cases with multiple diagnosed conditions that cross diagnostic groupings

Conditions are reportable if identified within the first two years of a child's life. The prevalence frequencies in this table represent cases diagnosed within the first year of life.

Diagnoses are coded using the 9th revision to the International Classification of Diseases - ICD 9 CM. Diagnostic Code Groupings used for congenital anomaly codes are as used by the Centers for Disease Control. (See Birth Defect Groups and ICD-9-CM Diagnosis Codes for the codes used to categorize birth defects.)

Source: Michigan Birth Defects Registry, Division for Vital Records & Health Statistics, Michigan Department of Community Health Reports Processed through April 15, 2008

Last Updated on September 29, 2008

Table 10
Birth Defect Prevalence Rates by Summary Diagnostic Code Group and Birth Year,
Michigan Resident Children Born in Michigan During 1992,1995 and 1999-2005,
Cases Diagnosed within One Year from Birth

Congenital Anomalies (740 - 759)

Diagnostic Grouping	1992 to 2005	1992	1995	1999 to 2005	1999	2000	2001	2002	2003	2004	2005
A Congenital Anomalies of the Central Nervous System	32.5	30.8	28.3	36.8	32.6	34.6	36.7	38.3	37.0	40.1	38.7
B Congenital Anomalies of the Eye	22.9	19.3	18.1	26.9	25.0	26.3	27.0	28.5	28.1	26.0	27.3
C Congenital Anomalies of the Ear, Face and Neck	15.9	18.8	15.9	15.9	12.7	15.2	16.4	17.2	15.8	14.4	19.3
D Congenital Anomalies of the Heart and Circulatory System	156.6	128.4	139.1	167.5	148.7	143.9	159.0	172.2	176.6	185.0	189.4
E Congenital Anomalies of the Respiratory System	35.8	30.8	22.4	45.5	30.6	38.1	43.5	45.2	56.3	50.1	55.5
F Cleft Palate and Cleft Lip	15.0	16.0	14.4	15.3	16.7	14.4	15.5	15.1	16.2	14.2	15.0
G Congenital Anomalies of the Upper Alimentary Canal/ Digestive System	47.3	49.2	43.8	46.8	47.3	46.5	51.2	49.9	44.1	44.3	44.4
H Congenital Anomalies of the Genital and Urinary Systems	123.1	103.0	105.2	140.6	124.2	148.3	139.8	142.7	138.3	140.3	150.9
I Congenital Anomalies of the Musculoskeletal System	141.8	146.4	116.3	156.2	132.1	150.3	164.1	171.8	157.9	146.5	171.7
J Congenital Anomalies of the Integument	26.7	29.0	24.9	27.5	22.3	21.7	22.8	23.1	22.3	34.0	47.1
K Chromosomal Anomalies	20.1	21.7	17.0	21.2	21.6	20.5	21.2	21.1	21.3	21.2	21.7
L Other and Unspecified Congenital Anomalies	30.9	25.1	12.1	44.0	27.0	41.5	53.0	47.5	50.0	45.1	44.6

Table 10
Birth Defect Prevalence Rates by Summary Diagnostic Code Group and Birth Year,
Michigan Resident Children Born in Michigan During 1992,1995 and 1999-2005,
Cases Diagnosed within One Year from Birth
(Continued)

Other Reportable Conditions

Diagnostic Grouping	1992 to 2005	1992	1995	1999 to 2005	1999	2000	2001	2002	2003	2004	2005
M Infectious Conditions Occurring in the Perinatal Period	10.7	14.4	9.7	10.1	9.7	11.3	12.6	12.5	11.2	6.8	6.3
N Familial/Congenital Neoplasms	0.9	0.5	0.7	1.0	1.2	1.3	1.0	1.0	1.0	0.6	1.2
O Endocrine/Metabolic Disorders	26.4	18.3	20.1	31.6	32.0	33.2	31.6	32.4	31.2	26.8	33.9
P Diseases of the Blood & Blood Forming Organs	16.4	13.2	16.4	18.2	15.5	17.3	15.3	19.2	19.5	18.2	22.9
Q Other Diseases of the Central and Peripheral Nervous System	16.1	12.6	13.8	18.9	18.5	18.3	18.1	19.3	17.4	19.3	21.3
R Other Diseases of the Eye	42.0	22.4	36.8	48.4	50.6	47.0	47.7	48.8	45.7	46.6	52.5
S Hearing Deficiency	16.3	2.1	2.7	29.3	13.4	24.3	38.5	43.8	32.0	26.6	27.0
T Other Diseases of the Heart & Circulatory System	35.8	40.6	32.7	33.3	42.0	37.3	31.5	34.2	31.6	25.6	30.2
U Other Diseases of the Gastrointestinal System	65.5	69.3	65.2	64.0	62.6	64.8	70.2	64.2	61.6	60.0	64.3
V Other Diseases of the Genital and Urinary Systems	3.2	2.3	3.0	3.3	3.0	3.6	3.3	3.5	3.5	3.8	2.7
W Other Fetal/Placental Anomalies	0.6	*	-	1.2	*	-	-	*	*	*	8.4
X Other Musculoskeletal System Diseases	0.3	0.6	*	0.2	*	*	*	*	0.5	*	*
Y Maternal Exposures Affecting Fetus	26.1	23.8	32.1	21.7	22.7	27.2	27.8	21.1	15.1	17.0	20.4
One or More Reportable Diagnosis	683.7	645.5	595.8	740.5	656.4	720.4	764.3	764.6	727.3	729.2	825.9

Notes:

Rates Are Per 10,000 Michigan Born Resident Live Births. Rates include all children reported with a birth defect who were born in Michigan and whose mother was a resident at the time of birth. This enables the calculation of birth defects prevalence rates. Birth defect statistics sometimes reflect trends related to data reporting or new testing. See Data Quality Considerations for further details.

Symbols: * : Figure does not meet standards of reliability or precision. • - : A dash represents quantity zero. • 0.0: Quantity more than zero but less than 0.05.

Conditions are reportable if identified within the first two years of a child's life. The prevalence frequencies used to calculate the rates in this table represent cases diagnosed within the first year of life.

Diagnoses are coded using the 9th revision to the International Classification of Diseases - ICD 9 CM. Diagnostic Code Groupings used for congenital anomaly codes are as used by the Centers for Disease Control. (See Birth Defect Groups and ICD-9-CM Diagnosis Codes for the codes used to categorize birth defects.)

Source: Michigan Birth Defects Registry, Division for Vital Records & Health Statistics, Michigan Department of Community Health Reports Processed through April 15, 2008

Table 11
Birth Defect Prevalence Rates by Detailed Diagnostic Code Group and Birth Year,
Michigan Resident Children Born in Michigan During 1992,1995 and 1999-2005,
Cases Diagnosed within One Year from Birth

Congenital Anomalies (740 - 759)

Diagnostic Grouping	1992 to 2005	1992	1995	1999 to 2005	1999	2000	2001	2002	2003	2004	2005
A Congenital Anomalies of the Central Nervous System	32.5	30.8	28.3	36.8	32.6	34.6	36.7	38.3	37.0	40.1	38.7
A01 Anencephalus	1.0	0.8	1.0	1.1	0.9	1.5	0.5	1.2	1.4	1.5	0.9
A02 Spina Bifida w/o Anencephaly	4.1	3.8	4.9	4.1	3.9	3.5	5.2	3.4	3.7	4.7	4.5
A03 Hydrocephalus w/o Spina Bifida	9.1	10.1	7.8	9.6	10.0	9.8	10.8	9.6	8.6	9.7	8.8
A04 Encephalocele	1.0	1.4	0.9	1.0	0.7	1.1	0.7	0.9	1.0	1.0	1.6
A05 Microcephalus	7.5	6.3	6.7	9.0	7.7	8.8	8.7	10.5	8.9	9.4	9.2
A99. All Other CNS Anomalies	15.2	13.6	12.1	18.2	14.7	14.7	17.0	19.1	20.3	20.9	20.9
Diagnostic Grouping	1992 to 2005	1992	1995	1999 to 2005	1999	2000	2001	2002	2003	2004	2005
B Congenital Anomalies of the Eye	22.9	19.3	18.1	26.9	25.0	26.3	27.0	28.5	28.1	26.0	27.3
B01 Anophthalmos/Microphthalmos	1.6	1.4	1.6	1.9	1.5	1.3	2.1	2.5	2.0	1.7	2.0
B02 Congenital Cataract	2.1	1.3	2.0	2.4	2.2	2.6	2.1	2.5	2.7	2.1	2.6
B03 Aniridia	0.2	*	*	0.3	*	*	*	*	*	0.5	*
B99. All Other Congenital Anomalies of the Eye	20.3	17.3	15.3	24.3	22.5	23.9	24.6	25.4	25.3	23.7	24.5
Diagnostic Grouping	1992 to 2005	1992	1995	1999 to 2005	1999	2000	2001	2002	2003	2004	2005
C Congenital Anomalies of the Ear, Face and Neck	15.9	18.8	15.9	15.9	12.7	15.2	16.4	17.2	15.8	14.4	19.3
C01 Anotia/Microtia	0.9	0.8	0.7	1.2	1.4	1.0	1.2	1.3	1.4	1.3	0.9
C99. All Other Congenital Anomalies of the Ear, Face and Neck	15.6	18.4	15.6	15.5	12.1	14.9	16.1	16.6	15.7	14.0	19.0

Table 11
Birth Defect Prevalence Rates by Detailed Diagnostic Code Group and Birth Year,
Michigan Resident Children Born in Michigan During 1992,1995 and 1999-2005,
Cases Diagnosed within One Year from Birth
(Continued)

Congenital Anomalies (740 - 759)

Diagnostic Grouping	1992 to 2005	1992	1995	1999 to 2005	1999	2000	2001	2002	2003	2004	2005
D Congenital Anomalies of the Heart and Circulatory System	156.6	128.4	139.1	167.5	148.7	143.9	159.0	172.2	176.6	185.0	189.4
D01 Common Truncus	1.2	1.2	0.7	1.1	1.1	0.6	1.1	1.0	1.8	1.2	1.2
D02 Transposition of Great Vessels	4.6	4.7	3.9	4.6	3.9	4.7	4.1	5.0	4.2	4.2	6.5
D03 Tetralogy of Fallot	5.1	5.1	4.7	4.9	5.2	4.5	4.6	4.9	5.9	4.2	5.1
D04 Ventricular Septal Defect	38.9	39.4	35.5	38.4	38.2	35.3	34.9	38.8	39.8	39.5	42.9
D05 Atrial Septal Defect	56.6	29.8	47.5	68.6	54.1	53.9	58.6	68.0	73.8	82.6	91.0
D06 Endocardial Cushion Defect	4.2	3.6	3.6	4.4	3.7	3.1	3.9	4.5	5.8	4.7	4.9
D07 Pulmonary Valve Atresia and Stenosis	10.5	9.2	8.2	10.9	11.5	9.9	11.7	9.4	11.7	9.1	13.3
D08 Tricuspid Valve Atresia and Stenosis	1.3	1.2	1.0	1.4	1.2	1.1	2.0	1.8	1.5	0.7	1.6
D09 Ebstein's Anomaly	1.3	0.9	*	1.9	1.6	2.6	3.4	2.7	1.4	0.7	0.9
D10 Aortic Valve Stenosis	2.2	2.3	1.6	2.6	3.0	2.8	1.9	2.3	2.5	2.7	2.7
D11 Hypoplastic Left Heart Syndrome	3.7	3.7	3.5	3.9	3.7	3.2	4.7	4.0	4.0	3.5	4.4
D12 Patent Ductus Arteriosus	47.3	42.9	46.7	47.6	41.5	35.6	43.0	46.3	56.4	53.8	57.3
D13 Coarctation of Aorta	5.4	4.6	4.2	5.9	6.5	5.9	5.0	6.2	6.1	5.8	6.0
D14 Pulmonary Artery Anomalies	17.0	10.3	13.0	19.9	17.8	17.8	21.2	21.8	21.1	17.5	22.1
D99. All Other Congenital Anomalies of the Heart and Circulatory System	67.3	58.1	54.9	71.5	64.3	61.7	65.6	75.3	75.0	85.7	73.6
Diagnostic Grouping	1992 to 2005	1992	1995	1999 to 2005	1999	2000	2001	2002	2003	2004	2005
E Congenital Anomalies of the Respiratory System	35.8	30.8	22.4	45.5	30.6	38.1	43.5	45.2	56.3	50.1	55.5
E01 Lung Agenesis/Hypoplasia	6.3	5.4	4.5	7.4	6.9	6.3	5.2	6.1	11.6	8.3	7.3
E02 Choanal Atresia	1.6	1.7	1.1	1.7	1.5	1.5	2.0	2.2	1.4	1.5	1.8
E99. All Other Congenital Anomalies of the Respiratory System	30.2	25.8	18.2	39.0	24.2	32.3	38.6	40.2	46.3	42.8	49.4
Diagnostic Grouping	1992 to 2005	1992	1995	1999 to 2005	1999	2000	2001	2002	2003	2004	2005
F Cleft Palate and Cleft Lip	15.0	16.0	14.4	15.3	16.7	14.4	15.5	15.1	16.2	14.2	15.0
F01 Cleft Palate	5.4	5.5	5.6	5.3	5.9	5.0	5.6	5.1	5.1	4.7	5.5
F02 Cleft Lip w and w/o Cleft Palate	9.7	10.5	8.8	10.0	10.8	9.4	9.9	10.0	11.1	9.5	9.4

Table 11
Birth Defect Prevalence Rates by Detailed Diagnostic Code Group and Birth Year,
Michigan Resident Children Born in Michigan During 1992,1995 and 1999-2005,
Cases Diagnosed within One Year from Birth
(Continued)

Congenital Anomalies (740 - 759)

Diagnostic Grouping	1992 to 2005	1992	1995	1999 to 2005	1999	2000	2001	2002	2003	2004	2005
G Congenital Anomalies of the Upper Alimentary Canal/ Digestive System	47.3	49.2	43.8	46.8	47.3	46.5	51.2	49.9	44.1	44.3	44.4
G01 Esophageal Atresia/ Tracheoesophageal Fistula	3.5	2.8	3.8	3.1	3.3	2.3	3.1	3.2	3.5	3.2	3.2
G02 Rectal and Large Intestinal Atresia/Stenosis	4.5	5.1	4.7	4.6	4.6	5.2	4.3	4.7	4.5	4.3	4.4
G03 Pyloric Stenosis	17.7	20.6	14.8	17.3	19.0	16.4	21.1	18.8	15.7	15.4	14.4
G04 Hirshsprung's Disease (congenital megacolon)	3.0	3.0	2.1	3.1	3.5	2.9	3.3	3.1	3.1	3.1	2.6
G05 Biliary Atresia	1.2	1.2	1.6	1.1	1.3	1.2	1.1	0.7	1.1	1.4	0.9
G99. Other Cong. Anomalies of Upper Alimentary Canal / Digestive System	20.6	19.5	19.9	20.9	18.7	21.8	20.8	22.6	20.4	20.0	22.3
Diagnostic Grouping	1992 to 2005	1992	1995	1999 to 2005	1999	2000	2001	2002	2003	2004	2005
H Congenital Anomalies of the Genital and Urinary Systems	123.1	103.0	105.2	140.6	124.2	148.3	139.8	142.7	138.3	140.3	150.9
H01 Renal Agenesis/Hypoplasia	5.3	4.6	4.7	5.5	5.6	6.8	4.9	6.0	5.8	4.6	5.2
H02 Bladder Exstrophy	0.4	0.4	0.5	0.4	*	*	0.7	0.5	*	*	0.5
H03 Obstructive Genitourinary Defects	18.3	15.2	16.2	21.5	17.2	19.2	21.2	22.5	22.8	22.7	24.9
H04 Hypospadias & Epispadias	20.2	*	5.0	30.8	29.9	33.1	29.0	30.6	29.0	28.1	35.9
H99. All Other Congenital Anomalies of the Genital & Urinary Systems	106.3	99.7	101.2	116.5	98.6	121.8	116.5	118.3	116.5	119.7	124.2
Diagnostic Grouping	1992 to 2005	1992	1995	1999 to 2005	1999	2000	2001	2002	2003	2004	2005
I Congenital Anomalies of the Musculoskeletal System	141.8	146.4	116.3	156.2	132.1	150.3	164.1	171.8	157.9	146.5	171.7
I01 Upper Limb Reduction Deformities	2.5	4.3	2.5	2.3	2.5	2.7	2.5	2.6	2.4	1.5	1.8
I02 Lower Limb Reduction Deformities	1.6	1.6	1.6	1.8	1.5	1.4	2.0	1.8	1.7	1.9	2.2
I03 Gastroschisis/Omphalocele	4.8	4.0	5.2	4.8	4.2	4.2	4.9	3.6	5.0	5.6	6.0
I04 Congenital Hip Dislocation	13.5	17.5	13.8	12.7	12.3	14.1	15.1	15.2	12.7	10.8	8.7
I05 Diaphragmatic Hernia	3.0	3.5	3.0	3.1	3.3	2.8	3.1	2.4	3.6	3.5	2.8
I99. All Other Congenital Anomalies of the Musculoskeletal System	123.4	121.6	96.3	139.5	114.5	131.4	145.2	156.4	141.7	131.3	157.5

Table 11
Birth Defect Prevalence Rates by Detailed Diagnostic Code Group and Birth Year,
Michigan Resident Children Born in Michigan During 1992,1995 and 1999-2005,
Cases Diagnosed within One Year from Birth
(Continued)

Congenital Anomalies (740 - 759)

Diagnostic Grouping	1992 to 2005	1992	1995	1999 to 2005	1999	2000	2001	2002	2003	2004	2005
J Congenital Anomalies of the Integument	26.7	29.0	24.9	27.5	22.3	21.7	22.8	23.1	22.3	34.0	47.1
Diagnostic Grouping	1992 to 2005	1992	1995	1999 to 2005	1999	2000	2001	2002	2003	2004	2005
K Chromosomal Anomalies	20.1	21.7	17.0	21.2	21.6	20.5	21.2	21.1	21.3	21.2	21.7
K01 Trisomy 13	1.0	1.5	0.8	1.0	1.0	1.1	0.7	0.7	1.1	0.9	1.2
K02 Down Syndrome	11.4	11.9	9.6	12.1	11.3	10.5	12.8	13.0	10.8	13.2	13.3
K03 Trisomy 18	1.4	1.5	1.3	1.5	1.9	1.0	1.5	1.5	2.0	1.2	1.2
K99. All Other Chromosomal Anomalies	7.3	7.5	5.8	7.9	8.6	9.2	7.4	7.5	8.8	6.5	7.3
Diagnostic Grouping	1992 to 2005	1992	1995	1999 to 2005	1999	2000	2001	2002	2003	2004	2005
L Other and Unspecified Congenital Anomalies	30.9	25.1	12.1	44.0	27.0	41.5	53.0	47.5	50.0	45.1	44.6

Table 11
Birth Defect Prevalence Rates by Detailed Diagnostic Code Group and Birth Year,
Michigan Resident Children Born in Michigan During 1992,1995 and 1999-2005,
Cases Diagnosed within One Year from Birth
(Continued)

Other Reportable Conditions

Diagnostic Grouping	1992 to 2005	1992	1995	1999 to 2005	1999	2000	2001	2002	2003	2004	2005
M Infectious Conditions Occurring in the Perinatal Period	10.7	14.4	9.7	10.1	9.7	11.3	12.6	12.5	11.2	6.8	6.3
M01 Syphilis	3.6	11.0	3.6	1.3	1.1	1.3	1.9	0.9	2.3	*	1.0
M02 Other Infections	7.2	3.7	6.1	8.8	8.6	10.0	10.7	11.6	8.9	6.6	5.3
Diagnostic Grouping	1992 to 2005	1992	1995	1999 to 2005	1999	2000	2001	2002	2003	2004	2005
N Familial/Congenital Neoplasms	0.9	0.5	0.7	1.0	1.2	1.3	1.0	1.0	1.0	0.6	1.2
Diagnostic Grouping	1992 to 2005	1992	1995	1999 to 2005	1999	2000	2001	2002	2003	2004	2005
O Endocrine/Metabolic Disorders	26.4	18.3	20.1	31.6	32.0	33.2	31.6	32.4	31.2	26.8	33.9
Diagnostic Grouping	1992 to 2005	1992	1995	1999 to 2005	1999	2000	2001	2002	2003	2004	2005
P Diseases of the Blood & Blood Forming Organs	16.4	13.2	16.4	18.2	15.5	17.3	15.3	19.2	19.5	18.2	22.9
Diagnostic Grouping	1992 to 2005	1992	1995	1999 to 2005	1999	2000	2001	2002	2003	2004	2005
Q Other Diseases of the Central and Peripheral Nervous System	16.1	12.6	13.8	18.9	18.5	18.3	18.1	19.3	17.4	19.3	21.3
Diagnostic Grouping	1992 to 2005	1992	1995	1999 to 2005	1999	2000	2001	2002	2003	2004	2005
R Other Diseases of the Eye	42.0	22.4	36.8	48.4	50.6	47.0	47.7	48.8	45.7	46.6	52.5
Diagnostic Grouping	1992 to 2005	1992	1995	1999 to 2005	1999	2000	2001	2002	2003	2004	2005
S Hearing Deficiency	16.3	2.1	2.7	29.3	13.4	24.3	38.5	43.8	32.0	26.6	27.0
Diagnostic Grouping	1992 to 2005	1992	1995	1999 to 2005	1999	2000	2001	2002	2003	2004	2005
T Other Diseases of the Heart & Circulatory System	35.8	40.6	32.7	33.3	42.0	37.3	31.5	34.2	31.6	25.6	30.2

Table 11
Birth Defect Prevalence Rates by Detailed Diagnostic Code Group and Birth Year,
Michigan Resident Children Born in Michigan During 1992,1995 and 1999-2005,
Cases Diagnosed within One Year from Birth
(Continued)

Other Reportable Conditions

Diagnostic Grouping	1992 to 2005	1992	1995	1999 to 2005	1999	2000	2001	2002	2003	2004	2005
U Other Diseases of the Gastrointestinal System	65.5	69.3	65.2	64.0	62.6	64.8	70.2	64.2	61.6	60.0	64.3
Diagnostic Grouping	1992 to 2005	1992	1995	1999 to 2005	1999	2000	2001	2002	2003	2004	2005
V Other Diseases of the Genital and Urinary Systems	3.2	2.3	3.0	3.3	3.0	3.6	3.3	3.5	3.5	3.8	2.7
Diagnostic Grouping	1992 to 2005	1992	1995	1999 to 2005	1999	2000	2001	2002	2003	2004	2005
W Other Fetal/Placental Anomalies	0.6	*	-	1.2	*	-	-	*	*	*	8.4
Diagnostic Grouping	1992 to 2005	1992	1995	1999 to 2005	1999	2000	2001	2002	2003	2004	2005
X Other Musculoskeletal System Diseases	0.3	0.6	*	0.2	*	*	*	*	0.5	*	*
Diagnostic Grouping	1992 to 2005	1992	1995	1999 to 2005	1999	2000	2001	2002	2003	2004	2005
Y Maternal Exposures Affecting Fetus	26.1	23.8	32.1	21.7	22.7	27.2	27.8	21.1	15.1	17.0	20.4
Y01 Fetal Alcohol Syndrome	2.1	2.4	3.2	1.6	2.5	1.9	1.7	1.5	1.0	1.1	1.3
Y99. Other Maternal Exposures Affecting the Fetus	24.6	22.1	29.8	20.5	21.0	25.6	26.7	20.0	14.3	16.0	19.2
Diagnostic Grouping	1992 to 2005	1992	1995	1999 to 2005	1999	2000	2001	2002	2003	2004	2005
One or More Reportable Diagnosis	683.7	645.5	595.8	740.5	656.4	720.4	764.3	764.6	727.3	729.2	825.9

Notes:

Rates are per 10,000 Michigan Born Resident Live Births. Rates include all children reported with a birth defect who were born in Michigan and whose mother was a resident at the time of birth. This enables the calculation of birth defects prevalence rates. Birth defect statistics sometimes reflect trends related to data reporting or new testing. See Data Quality Considerations for further details.

*: A rate is not calculated when there are fewer than 6 events, because the width of the confidence interval would negate any usefulness for comparative purposes.

Conditions are reportable if identified within the first two years of a child's life. The prevalence frequencies used to calculate the rates in this table represent cases diagnosed within the first year of life.

Diagnoses are coded using the 9th revision to the International Classification of Diseases - ICD 9 CM. Diagnostic Code Groupings used for congenital anomaly codes are as used by the Centers for Disease Control. (See Birth Defect Groups and ICD-9-CM Diagnosis Codes for the codes used to categorize birth defects.)

Source: Michigan Birth Defects Registry, Division for Vital Records & Health Statistics, Michigan Department of Community Health Reports Processed through April 15, 2008

Last Updated on September 29, 2008

Table 12
Infant Deaths of Michigan Children with Reported Birth Defects
by Summary Diagnostic Code Group and Birth Year,
Michigan Resident Children Born in Michigan During 1992,1995 and 1999-2005,
Cases Diagnosed within One Year from Birth

Congenital Anomalies (740 - 759)

Diagnostic Grouping	1992 to 2005	1992	1995	1999 to 2005	1999	2000	2001	2002	2003	2004	2005
A Congenital Anomalies of the Central Nervous System	826	81	47	414	62	43	59	60	71	69	50
B Congenital Anomalies of the Eye	119	10	11	64	7	6	11	14	8	12	6
C Congenital Anomalies of the Ear, Face and Neck	135	16	4	62	5	7	10	9	9	11	11
D Congenital Anomalies of the Heart and Circulatory System	2,405	200	167	1,149	165	158	173	171	208	157	117
E Congenital Anomalies of the Respiratory System	987	76	64	511	88	78	53	73	87	72	60
F Cleft Palate and Cleft Lip	181	22	14	88	11	7	10	15	17	19	9
G Congenital Anomalies of the Upper Alimentary Canal/ Digestive System	421	35	32	199	26	24	30	28	33	38	20
H Congenital Anomalies of the Genital and Urinary Systems	844	82	61	414	57	50	52	69	76	62	48
I Congenital Anomalies of the Musculoskeletal System	952	91	69	453	62	68	63	60	78	70	52
J Congenital Anomalies of the Integument	78	4	7	38	5	6	8	6	4	5	4
K Chromosomal Anomalies	667	68	33	353	55	58	45	43	62	43	47
L Other and Unspecified Congenital Anomalies	639	44	25	365	50	52	51	50	66	63	33

Table 12
Infant Deaths of Michigan Children with Reported Birth Defects
by Summary Diagnostic Code Group and Birth Year,
Michigan Resident Children Born in Michigan During 1992,1995 and 1999-2005,
Cases Diagnosed within One Year from Birth
(Continued)

Other Reportable Conditions

Diagnostic Grouping	1992 to 2005	1992	1995	1999 to 2005	1999	2000	2001	2002	2003	2004	2005
M Infectious Conditions Occurring in the Perinatal Period	162	11	7	93	11	17	23	17	14	5	6
N Familial/Congenital Neoplasms	12	-	1	2	-	1	1	-	-	-	-
O Endocrine/Metabolic Disorders	285	13	17	144	18	24	23	24	28	17	10
P Diseases of the Blood & Blood Forming Organs	232	11	18	111	25	20	13	13	15	9	16
Q Other Diseases of the Central and Peripheral Nervous System	159	17	10	61	11	9	8	10	11	7	5
R Other Diseases of the Eye	243	16	15	131	15	19	27	20	23	21	6
S Hearing Deficiency	39	1	3	30	-	3	4	7	11	5	-
T Other Diseases of the Heart & Circulatory System	551	52	36	251	50	54	29	34	33	29	22
U Other Diseases of the Gastrointestinal System	508	47	33	225	36	27	31	40	40	27	24
V Other Diseases of the Genital and Urinary Systems	10	1	-	5	1	-	-	1	1	1	1
W Other Fetal/Placental Anomalies	7	1	-	6	-	-	-	-	-	-	6
X Other Musculoskeletal System Diseases	-	-	-	-	-	-	-	-	-	-	-
Y Maternal Exposures Affecting Fetus	162	22	7	65	12	13	11	8	11	6	4
One or More Reportable Diagnosis	5,520	471	372	2,659	390	407	387	392	435	370	278

Notes:

Frequencies include all deaths within the first year of life to children reported with a birth defect who were born in Michigan and whose mother was a resident at the time of birth. This enables the calculation of birth defect mortality rates. Birth defect statistics sometimes reflect trends related to data reporting or new testing. See Data Quality Considerations for further details. Columns do not add to total infant deaths born with birth defects. Some cases include diagnosis with multiple birth defects, and each birth defect diagnosis was counted in each appropriate grouping.

Diagnoses are coded using the 9th revision to the International Classification of Diseases - ICD 9 CM. Diagnostic Code Groupings used for congenital anomaly codes are as used by the Centers for Disease Control. (See Birth Defect Groups and ICD-9-CM Diagnosis Codes for the codes used to categorize birth defects.)

Source: Michigan Birth Defects Registry, Division for Vital Records & Health Statistics, Michigan Department of Community Health
 Reports Processed through April 15, 2008
 Mortality data includes all linked deaths identified through death year 2006.

Last Updated on September 29, 2008

Table 13
Infant Deaths of Michigan Children with Reported Birth Defects
by Detailed Diagnostic Code Group and Birth Year,
Michigan Resident Children Born in Michigan During 1992,1995 and 1999-2005,
Cases Diagnosed within One Year from Birth

Congenital Anomalies (740 - 759)

Diagnostic Grouping	1992 to 2005	1992	1995	1999 to 2005	1999	2000	2001	2002	2003	2004	2005
A Congenital Anomalies of the Central Nervous System	826	81	47	414	62	43	59	60	71	69	50
A01 Anencephalus	175	12	13	97	12	20	7	15	14	18	11
A02 Spina Bifida w/o Anencephaly	69	6	5	29	6	2	7	1	4	5	4
A03 Hydrocephalus w/o Spina Bifida	244	27	15	119	19	8	22	16	18	19	17
A04 Encephalocele	54	11	2	19	2	2	2	1	4	3	5
A05 Microcephalus	120	11	5	65	12	3	5	16	13	9	7
A99. All Other CNS Anomalies	319	28	17	175	22	15	28	24	35	29	22
Diagnostic Grouping	1992 to 2005	1992	1995	1999 to 2005	1999	2000	2001	2002	2003	2004	2005
B Congenital Anomalies of the Eye	119	10	11	64	7	6	11	14	8	12	6
B01 Anophthalmos/Microphthalmos	41	8	3	21	2	2	5	5	-	4	3
B02 Congenital Cataract	14	1	1	9	1	-	2	2	2	-	2
B03 Aniridia	1	-	-	1	-	-	-	-	-	-	1
B99. All Other Congenital Anomalies of the Eye	74	2	7	41	4	4	7	7	6	10	3
Diagnostic Grouping	1992 to 2005	1992	1995	1999 to 2005	1999	2000	2001	2002	2003	2004	2005
C Congenital Anomalies of the Ear, Face and Neck	135	16	4	62	5	7	10	9	9	11	11
C01 Anotia/Microtia	9	2	-	5	-	1	1	-	2	1	-
C99. All Other Congenital Anomalies of the Ear, Face and Neck	129	14	4	60	5	6	10	9	9	10	11

Table 13
Infant Deaths of Michigan Children with Reported Birth Defects
by Detailed Diagnostic Code Group and Birth Year,
Michigan Resident Children Born in Michigan During 1992,1995 and 1999-2005,
Cases Diagnosed within One Year from Birth
(Continued)

Congenital Anomalies (740 - 759)

Diagnostic Grouping	1992 to 2005	1992	1995	1999 to 2005	1999	2000	2001	2002	2003	2004	2005
D Congenital Anomalies of the Heart and Circulatory System	2,405	200	167	1,149	165	158	173	171	208	157	117
D01 Common Truncus	35	3	1	13	2	1	2	1	3	2	2
D02 Transposition of Great Vessels	141	9	6	62	12	9	4	11	9	9	8
D03 Tetralogy of Fallot	115	10	10	51	10	12	6	4	8	8	3
D04 Ventricular Septal Defect	486	45	32	223	39	33	28	29	39	38	17
D05 Atrial Septal Defect	659	37	35	351	38	42	50	52	77	53	39
D06 Endocardial Cushion Defect	136	16	9	55	8	8	9	4	9	8	9
D07 Pulmonary Valve Atresia and Stenosis	131	9	3	68	15	11	11	6	11	5	9
D08 Tricuspid Valve Atresia and Stenosis	39	5	3	13	1	5	1	3	2	-	1
D09 Ebstein's Anomaly	31	1	-	26	4	8	5	7	-	1	1
D10 Aortic Valve Stenosis	47	4	2	16	4	2	3	-	1	3	3
D11 Hypoplastic Left Heart Syndrome	270	26	17	120	25	18	20	16	17	10	14
D12 Patent Ductus Arteriosus	883	87	62	395	51	52	44	45	92	61	50
D13 Coarctation of Aorta	139	9	10	70	16	9	5	9	9	11	11
D14 Pulmonary Artery Anomalies	191	12	8	99	16	19	18	10	20	8	8
D99. All Other Congenital Anomalies of the Heart and Circulatory System	1,397	106	93	678	98	87	106	109	112	97	69
Diagnostic Grouping	1992 to 2005	1992	1995	1999 to 2005	1999	2000	2001	2002	2003	2004	2005
E Congenital Anomalies of the Respiratory System	987	76	64	511	88	78	53	73	87	72	60
E01 Lung Agenesis/Hypoplasia	687	56	45	339	65	56	33	40	58	40	47
E02 Choanal Atresia	16	1	-	6	1	1	2	1	-	-	1
E99. All Other Congenital Anomalies of the Respiratory System	327	22	19	193	24	25	20	37	35	35	17
Diagnostic Grouping	1992 to 2005	1992	1995	1999 to 2005	1999	2000	2001	2002	2003	2004	2005
F Cleft Palate and Cleft Lip	181	22	14	88	11	7	10	15	17	19	9
F01 Cleft Palate	72	8	7	33	4	3	4	8	6	6	2
F02 Cleft Lip w and w/o Cleft Palate	109	14	7	55	7	4	6	7	11	13	7

Table 13
Infant Deaths of Michigan Children with Reported Birth Defects
by Detailed Diagnostic Code Group and Birth Year,
Michigan Resident Children Born in Michigan During 1992,1995 and 1999-2005,
Cases Diagnosed within One Year from Birth
(Continued)

Congenital Anomalies (740 - 759)

Diagnostic Grouping	1992 to 2005	1992	1995	1999 to 2005	1999	2000	2001	2002	2003	2004	2005
G Congenital Anomalies of the Upper Alimentary Canal/ Digestive System	421	35	32	199	26	24	30	28	33	38	20
G01 Esophageal Atresia/ Tracheoesophageal Fistula	77	11	6	35	5	3	5	4	7	7	4
G02 Rectal and Large Intestinal Atresia/Stenosis	80	6	11	33	6	2	4	3	4	9	5
G03 Pyloric Stenosis	20	-	-	13	1	5	2	1	3	1	-
G04 Hirshsprung's Disease (congenital megacolon)	16	1	1	7	1	1	3	1	1	-	-
G05 Biliary Atresia	13	-	1	6	1	1	1	2	-	1	-
G99. Other Cong. Anomalies of Upper Alimentary Canal / Digestive System	271	18	16	134	16	15	19	21	23	26	14
Diagnostic Grouping	1992 to 2005	1992	1995	1999 to 2005	1999	2000	2001	2002	2003	2004	2005
H Congenital Anomalies of the Genital and Urinary Systems	844	82	61	414	57	50	52	69	76	62	48
H01 Renal Agenesis/Hypoplasia	231	24	18	106	16	17	9	19	21	13	11
H02 Bladder Extrophy	8	1	-	3	1	-	-	-	-	-	2
H03 Obstructive Genitourinary Defects	139	15	9	72	8	9	3	13	17	13	9
H04 Hypospadias & Epispadias	52	-	1	43	-	4	10	8	4	12	5
H99. All Other Congenital Anomalies of the Genital & Urinary Systems	655	66	47	316	48	34	39	53	57	47	38
Diagnostic Grouping	1992 to 2005	1992	1995	1999 to 2005	1999	2000	2001	2002	2003	2004	2005
I Congenital Anomalies of the Musculoskeletal System	952	91	69	453	62	68	63	60	78	70	52
I01 Upper Limb Reduction Deformities	34	2	3	13	1	2	2	1	3	3	1
I02 Lower Limb Reduction Deformities	25	2	-	8	2	-	1	2	-	2	1
I03 Gastroschisis/Omphalocele	114	5	10	54	7	5	8	5	12	6	11
I04 Congenital Hip Dislocation	26	3	1	9	2	2	2	1	-	1	1
I05 Diaphragmatic Hernia	172	18	17	79	11	12	9	12	18	9	8
I99. All Other Congenital Anomalies of the Musculoskeletal System	681	67	45	330	43	50	45	47	50	60	35

Table 13
Infant Deaths of Michigan Children with Reported Birth Defects
by Detailed Diagnostic Code Group and Birth Year,
Michigan Resident Children Born in Michigan During 1992,1995 and 1999-2005,
Cases Diagnosed within One Year from Birth
(Continued)

Congenital Anomalies (740 - 759)

Diagnostic Grouping	1992 to 2005	1992	1995	1999 to 2005	1999	2000	2001	2002	2003	2004	2005
J Congenital Anomalies of the Integument	78	4	7	38	5	6	8	6	4	5	4
Diagnostic Grouping	1992 to 2005	1992	1995	1999 to 2005	1999	2000	2001	2002	2003	2004	2005
K Chromosomal Anomalies	667	68	33	353	55	58	45	43	62	43	47
K01 Trisomy 13	145	19	8	71	11	13	7	7	11	10	12
K02 Down Syndrome	190	18	8	104	15	15	18	14	17	14	11
K03 Trisomy 18	196	19	16	96	20	11	16	11	18	9	11
K99. All Other Chromosomal Anomalies	187	15	1	120	15	24	9	15	27	11	19
Diagnostic Grouping	1992 to 2005	1992	1995	1999 to 2005	1999	2000	2001	2002	2003	2004	2005
L Other and Unspecified Congenital Anomalies	639	44	25	365	50	52	51	50	66	63	33

Table 13
Infant Deaths of Michigan Children with Reported Birth Defects
by Detailed Diagnostic Code Group and Birth Year,
Michigan Resident Children Born in Michigan During 1992,1995 and 1999-2005,
Cases Diagnosed within One Year from Birth
(Continued)

Other Reportable Conditions

Diagnostic Grouping	1992 to 2005	1992	1995	1999 to 2005	1999	2000	2001	2002	2003	2004	2005
M Infectious Conditions Occurring in the Perinatal Period	162	11	7	93	11	17	23	17	14	5	6
M01 Syphilis	15	2	1	2	-	-	-	1	-	-	1
M02 Other Infections	147	9	6	91	11	17	23	16	14	5	5
Diagnostic Grouping	1992 to 2005	1992	1995	1999 to 2005	1999	2000	2001	2002	2003	2004	2005
N Familial/Congenital Neoplasms	12	-	1	2	-	1	1	-	-	-	-
Diagnostic Grouping	1992 to 2005	1992	1995	1999 to 2005	1999	2000	2001	2002	2003	2004	2005
O Endocrine/Metabolic Disorders	285	13	17	144	18	24	23	24	28	17	10
Diagnostic Grouping	1992 to 2005	1992	1995	1999 to 2005	1999	2000	2001	2002	2003	2004	2005
P Diseases of the Blood & Blood Forming Organs	232	11	18	111	25	20	13	13	15	9	16
Diagnostic Grouping	1992 to 2005	1992	1995	1999 to 2005	1999	2000	2001	2002	2003	2004	2005
Q Other Diseases of the Central and Peripheral Nervous System	159	17	10	61	11	9	8	10	11	7	5
Diagnostic Grouping	1992 to 2005	1992	1995	1999 to 2005	1999	2000	2001	2002	2003	2004	2005
R Other Diseases of the Eye	243	16	15	131	15	19	27	20	23	21	6
Diagnostic Grouping	1992 to 2005	1992	1995	1999 to 2005	1999	2000	2001	2002	2003	2004	2005
S Hearing Deficiency	39	1	3	30	-	3	4	7	11	5	-
Diagnostic Grouping	1992 to 2005	1992	1995	1999 to 2005	1999	2000	2001	2002	2003	2004	2005
T Other Diseases of the Heart & Circulatory System	551	52	36	251	50	54	29	34	33	29	22

Table 13
Infant Deaths of Michigan Children with Reported Birth Defects
by Detailed Diagnostic Code Group and Birth Year,
Michigan Resident Children Born in Michigan During 1992,1995 and 1999-2005,
Cases Diagnosed within One Year from Birth
(Continued)

Other Reportable Conditions

Diagnostic Grouping	1992 to 2005	1992	1995	1999 to 2005	1999	2000	2001	2002	2003	2004	2005
U Other Diseases of the Gastrointestinal System	508	47	33	225	36	27	31	40	40	27	24
Diagnostic Grouping	1992 to 2005	1992	1995	1999 to 2005	1999	2000	2001	2002	2003	2004	2005
V Other Diseases of the Genital and Urinary Systems	10	1	-	5	1	-	-	1	1	1	1
Diagnostic Grouping	1992 to 2005	1992	1995	1999 to 2005	1999	2000	2001	2002	2003	2004	2005
W Other Fetal/Placental Anomalies	7	1	-	6	-	-	-	-	-	-	6
Diagnostic Grouping	1992 to 2005	1992	1995	1999 to 2005	1999	2000	2001	2002	2003	2004	2005
X Other Musculoskeletal System Diseases	-	-	-	-	-	-	-	-	-	-	-
Diagnostic Grouping	1992 to 2005	1992	1995	1999 to 2005	1999	2000	2001	2002	2003	2004	2005
Y Maternal Exposures Affecting Fetus	162	22	7	65	12	13	11	8	11	6	4
Y01 Fetal Alcohol Syndrome	18	3	1	5	2	-	-	1	1	1	-
Y99. Other Maternal Exposures Affecting the Fetus	147	20	6	61	11	13	11	7	10	5	4
Diagnostic Grouping	1992 to 2005	1992	1995	1999 to 2005	1999	2000	2001	2002	2003	2004	2005
One or More Reportable Diagnosis	5,520	471	372	2,659	390	407	387	392	435	370	278

Notes:

Frequencies include all deaths within the first year of life to children reported with a birth defect who were born in Michigan and whose mother was a resident at the time of birth. This enables the calculation of birth defect mortality rates. Birth defect statistics sometimes reflect trends related to data reporting or new testing. See Data Quality Considerations for further details. Columns do not add to total infant deaths born with birth defects. Some cases include diagnosis with multiple birth defects, and each birth defect diagnosis was counted in each appropriate grouping.

Diagnoses are coded using the 9th revision to the International Classification of Diseases - ICD 9 CM. Diagnostic Code Groupings used for congenital anomaly codes are as used by the Centers for Disease Control. (See Birth Defect Groups and ICD-9-CM Diagnosis Codes for the codes used to categorize birth defects.)

Source: Michigan Birth Defects Registry, Division for Vital Records & Health Statistics, Michigan Department of Community Health Reports Processed through April 15, 2008
Mortality data includes all linked deaths identified through death year 2006.

Table 14
Infant Deaths of Michigan Children with Reported Birth Defects
by Summary Diagnostic Code Group and Birth Year,
Michigan Resident Children Born in Michigan During 1992-1994 and 2000-2005,
Cases Diagnosed within One Year from Birth
Three-year Infant Mortality Totals

Congenital Anomalies (740 - 759)

Diagnostic Grouping	1992 to 1994	2000 to 2002	2001 to 2003	2002 to 2004	2003 to 2005
A Congenital Anomalies of the Central Nervous System	209	162	190	200	190
B Congenital Anomalies of the Eye	24	31	33	34	26
C Congenital Anomalies of the Ear, Face and Neck	38	26	28	29	31
D Congenital Anomalies of the Heart and Circulatory System	571	502	552	536	482
E Congenital Anomalies of the Respiratory System	222	204	213	232	219
F Cleft Palate and Cleft Lip	46	32	42	51	45
G Congenital Anomalies of the Upper Alimentary Canal/ Digestive System	97	82	91	99	91
H Congenital Anomalies of the Genital and Urinary Systems	213	171	197	207	186
I Congenital Anomalies of the Musculoskeletal System	250	191	201	208	200
J Congenital Anomalies of the Integument	22	20	18	15	13
K Chromosomal Anomalies	154	146	150	148	152
L Other and Unspecified Congenital Anomalies	125	153	167	179	162

Table 14
Infant Deaths of Michigan Children with Reported Birth Defects
by Summary Diagnostic Code Group and Birth Year,
Michigan Resident Children Born in Michigan During 1992-1994 and 2000-2005,
Cases Diagnosed within One Year from Birth
Three-year Infant Mortality Totals
(Continued)

Other Reportable Conditions

Diagnostic Grouping		1992 to 1994	2000 to 2002	2001 to 2003	2002 to 2004	2003 to 2005
M	Infectious Conditions Occurring in the Perinatal Period	35	57	54	36	25
N	Familial/Congenital Neoplasms	5	2	1	-	-
O	Endocrine/Metabolic Disorders	60	71	75	69	55
P	Diseases of the Blood & Blood Forming Organs	51	46	41	37	40
Q	Other Diseases of the Central and Peripheral Nervous System	48	27	29	28	23
R	Other Diseases of the Eye	48	66	70	64	50
S	Hearing Deficiency	3	14	22	23	16
T	Other Diseases of the Heart & Circulatory System	166	117	96	96	84
U	Other Diseases of the Gastrointestinal System	141	98	111	107	91
V	Other Diseases of the Genital and Urinary Systems	4	1	2	3	3
W	Other Fetal/Placental Anomalies	1	-	-	-	6
X	Other Musculoskeletal System Diseases	-	-	-	-	-
Y	Maternal Exposures Affecting Fetus	63	32	30	25	21
One or More Reportable Diagnosis		1,347	1,186	1,214	1,197	1,083

Notes:

Frequencies include all children reported with a birth defect who were born in Michigan and whose mother was a resident at the time of birth. This enables the calculation of birth defects mortality rates. Birth defect statistics sometimes reflect trends related to data reporting or new testing. See Data Quality Considerations for further details. Columns do not add to diagnostic group totals nor column totals due to cases with multiple diagnosed conditions that cross diagnostic groupings.

Conditions are reportable if identified within the first two years of a child's life. The mortality data in this table represent cases diagnosed within the first year of life.

Diagnoses are coded using the 9th revision to the International Classification of Diseases - ICD 9 CM. Diagnostic Code Groupings used for congenital anomaly codes are as used by the Centers for Disease Control. (See Birth Defect Groups and ICD-9-CM Diagnosis Codes for the codes used to categorize birth defects.)

Source: Michigan Birth Defects Registry, Division for Vital Records & Health Statistics, Michigan Department of Community Health Reports Processed through April 15, 2008

Table 15
Infant Deaths of Michigan Children with Reported Birth Defects
by Detailed Diagnostic Code Group and Birth Year,
Michigan Resident Children Born in Michigan During 1992-1994 and 2000-2005,
Cases Diagnosed within One Year from Birth
Three-year Infant Mortality Totals

Congenital Anomalies (740 - 759)

Diagnostic Grouping	1992 to 1994	2000 to 2002	2001 to 2003	2002 to 2004	2003 to 2005
A Congenital Anomalies of the Central Nervous System	209	162	190	200	190
A01 Anencephalus	38	42	36	47	43
A02 Spina Bifida w/o Anencephaly	19	10	12	10	13
A03 Hydrocephalus w/o Spina Bifida	65	46	56	53	54
A04 Encephalocele	23	5	7	8	12
A05 Microcephalus	30	24	34	38	29
A99. All Other CNS Anomalies	68	67	87	88	86
Diagnostic Grouping	1992 to 1994	2000 to 2002	2001 to 2003	2002 to 2004	2003 to 2005
B Congenital Anomalies of the Eye	24	31	33	34	26
B01 Anophthalmos/Microphthalmos	12	12	10	9	7
B02 Congenital Cataract	2	4	6	4	4
B03 Aniridia	-	-	-	-	1
B99. All Other Congenital Anomalies of the Eye	11	18	20	23	19
Diagnostic Grouping	1992 to 1994	2000 to 2002	2001 to 2003	2002 to 2004	2003 to 2005
C Congenital Anomalies of the Ear, Face and Neck	38	26	28	29	31
C01 Anotia/Microtia	3	2	3	3	3
C99. All Other Congenital Anomalies of the Ear, Face and Neck	35	25	28	28	30

Table 15
Infant Deaths of Michigan Children with Reported Birth Defects
by Detailed Diagnostic Code Group and Birth Year,
Michigan Resident Children Born in Michigan During 1992-1994 and 2000-2005,
Cases Diagnosed within One Year from Birth
Three-year Infant Mortality Totals
(Continued)

Congenital Anomalies (740 - 759)

Diagnostic Grouping	1992 to 1994	2000 to 2002	2001 to 2003	2002 to 2004	2003 to 2005
D Congenital Anomalies of the Heart and Circulatory System	571	502	552	536	482
D01 Common Truncus	11	4	6	6	7
D02 Transposition of Great Vessels	37	24	24	29	26
D03 Tetralogy of Fallot	30	22	18	20	19
D04 Ventricular Septal Defect	129	90	96	106	94
D05 Atrial Septal Defect	122	144	179	182	169
D06 Endocardial Cushion Defect	43	21	22	21	26
D07 Pulmonary Valve Atresia and Stenosis	32	28	28	22	25
D08 Tricuspid Valve Atresia and Stenosis	14	9	6	5	3
D09 Ebstein's Anomaly	4	20	12	8	2
D10 Aortic Valve Stenosis	15	5	4	4	7
D11 Hypoplastic Left Heart Syndrome	64	54	53	43	41
D12 Patent Ductus Arteriosus	249	141	181	198	203
D13 Coarctation of Aorta	31	23	23	29	31
D14 Pulmonary Artery Anomalies	38	47	48	38	36
D99. All Other Congenital Anomalies of the Heart and Circulatory System	320	302	327	318	278
Diagnostic Grouping	1992 to 1994	2000 to 2002	2001 to 2003	2002 to 2004	2003 to 2005
E Congenital Anomalies of the Respiratory System	222	204	213	232	219
E01 Lung Agenesis/Hypoplasia	157	129	131	138	145
E02 Choanal Atresia	3	4	3	1	1
E99. All Other Congenital Anomalies of the Respiratory System	70	82	92	107	87
Diagnostic Grouping	1992 to 1994	2000 to 2002	2001 to 2003	2002 to 2004	2003 to 2005
F Cleft Palate and Cleft Lip	46	32	42	51	45
F01 Cleft Palate	18	15	18	20	14
F02 Cleft Lip w and w/o Cleft Palate	28	17	24	31	31

Table 15
Infant Deaths of Michigan Children with Reported Birth Defects
by Detailed Diagnostic Code Group and Birth Year,
Michigan Resident Children Born in Michigan During 1992-1994 and 2000-2005,
Cases Diagnosed within One Year from Birth
Three-year Infant Mortality Totals
(Continued)

Congenital Anomalies (740 - 759)

Diagnostic Grouping	1992 to 1994	2000 to 2002	2001 to 2003	2002 to 2004	2003 to 2005
G Congenital Anomalies of the Upper Alimentary Canal/ Digestive System	97	82	91	99	91
G01 Esophageal Atresia/ Tracheoesophageal Fistula	23	12	16	18	18
G02 Rectal and Large Intestinal Atresia/Stenosis	18	9	11	16	18
G03 Pyloric Stenosis	4	8	6	5	4
G04 Hirshsprung's Disease (congenital megacolon)	6	5	5	2	1
G05 Biliary Atresia	1	4	3	3	1
G99. Other Cong. Anomalies of Upper Alimentary Canal / Digestive System	55	55	63	70	63
Diagnostic Grouping	1992 to 1994	2000 to 2002	2001 to 2003	2002 to 2004	2003 to 2005
H Congenital Anomalies of the Genital and Urinary Systems	213	171	197	207	186
H01 Renal Agenesis/Hypoplasia	60	45	49	53	45
H02 Bladder Exstrophy	3	-	-	-	2
H03 Obstructive Genitourinary Defects	33	25	33	43	39
H04 Hypospadias & Epispadias	1	22	22	24	21
H99. All Other Congenital Anomalies of the Genital & Urinary Systems	174	126	149	157	142
Diagnostic Grouping	1992 to 1994	2000 to 2002	2001 to 2003	2002 to 2004	2003 to 2005
I Congenital Anomalies of the Musculoskeletal System	250	191	201	208	200
I01 Upper Limb Reduction Deformities	11	5	6	7	7
I02 Lower Limb Reduction Deformities	9	3	3	4	3
I03 Gastroschisis/Omphalocele	21	18	25	23	29
I04 Congenital Hip Dislocation	12	5	3	2	2
I05 Diaphragmatic Hernia	40	33	39	39	35
I99. All Other Congenital Anomalies of the Musculoskeletal System	183	142	142	157	145

Table 15
Infant Deaths of Michigan Children with Reported Birth Defects
by Detailed Diagnostic Code Group and Birth Year,
Michigan Resident Children Born in Michigan During 1992-1994 and 2000-2005,
Cases Diagnosed within One Year from Birth
Three-year Infant Mortality Totals
(Continued)

Congenital Anomalies (740 - 759)

Diagnostic Grouping	1992 to 1994	2000 to 2002	2001 to 2003	2002 to 2004	2003 to 2005
J Congenital Anomalies of the Integument	22	20	18	15	13
Diagnostic Grouping	1992 to 1994	2000 to 2002	2001 to 2003	2002 to 2004	2003 to 2005
K Chromosomal Anomalies	154	146	150	148	152
K01 Trisomy 13	41	27	25	28	33
K02 Down Syndrome	44	47	49	45	42
K03 Trisomy 18	48	38	45	38	38
K99. All Other Chromosomal Anomalies	28	48	51	53	57
Diagnostic Grouping	1992 to 1994	2000 to 2002	2001 to 2003	2002 to 2004	2003 to 2005
L Other and Unspecified Congenital Anomalies	125	153	167	179	162

Table 15
Infant Deaths of Michigan Children with Reported Birth Defects
by Detailed Diagnostic Code Group and Birth Year,
Michigan Resident Children Born in Michigan During 1992-1994 and 2000-2005,
Cases Diagnosed within One Year from Birth
Three-year Infant Mortality Totals
(Continued)

Other Reportable Conditions

Diagnostic Grouping	1992 to 1994	2000 to 2002	2001 to 2003	2002 to 2004	2003 to 2005
M Infectious Conditions Occurring in the Perinatal Period	35	57	54	36	25
M01 Syphilis	9	1	1	1	1
M02 Other Infections	26	56	53	35	24
Diagnostic Grouping	1992 to 1994	2000 to 2002	2001 to 2003	2002 to 2004	2003 to 2005
N Familial/Congenital Neoplasms	5	2	1	-	-
Diagnostic Grouping	1992 to 1994	2000 to 2002	2001 to 2003	2002 to 2004	2003 to 2005
O Endocrine/Metabolic Disorders	60	71	75	69	55
Diagnostic Grouping	1992 to 1994	2000 to 2002	2001 to 2003	2002 to 2004	2003 to 2005
P Diseases of the Blood & Blood Forming Organs	51	46	41	37	40
Diagnostic Grouping	1992 to 1994	2000 to 2002	2001 to 2003	2002 to 2004	2003 to 2005
Q Other Diseases of the Central and Peripheral Nervous System	48	27	29	28	23
Diagnostic Grouping	1992 to 1994	2000 to 2002	2001 to 2003	2002 to 2004	2003 to 2005
R Other Diseases of the Eye	48	66	70	64	50
Diagnostic Grouping	1992 to 1994	2000 to 2002	2001 to 2003	2002 to 2004	2003 to 2005
S Hearing Deficiency	3	14	22	23	16
Diagnostic Grouping	1992 to 1994	2000 to 2002	2001 to 2003	2002 to 2004	2003 to 2005
T Other Diseases of the Heart & Circulatory System	166	117	96	96	84

Table 15
Infant Deaths of Michigan Children with Reported Birth Defects
by Detailed Diagnostic Code Group and Birth Year,
Michigan Resident Children Born in Michigan During 1992-1994 and 2000-2005,
Cases Diagnosed within One Year from Birth
Three-year Infant Mortality Totals
(Continued)

Other Reportable Conditions

Diagnostic Grouping	1992 to 1994	2000 to 2002	2001 to 2003	2002 to 2004	2003 to 2005
U Other Diseases of the Gastrointestinal System	141	98	111	107	91
Diagnostic Grouping	1992 to 1994	2000 to 2002	2001 to 2003	2002 to 2004	2003 to 2005
V Other Diseases of the Genital and Urinary Systems	4	1	2	3	3
Diagnostic Grouping	1992 to 1994	2000 to 2002	2001 to 2003	2002 to 2004	2003 to 2005
W Other Fetal/Placental Anomalies	1	-	-	-	6
Diagnostic Grouping	1992 to 1994	2000 to 2002	2001 to 2003	2002 to 2004	2003 to 2005
X Other Musculoskeletal System Diseases	-	-	-	-	-
Diagnostic Grouping	1992 to 1994	2000 to 2002	2001 to 2003	2002 to 2004	2003 to 2005
Y Maternal Exposures Affecting Fetus	63	32	30	25	21
Y01 Fetal Alcohol Syndrome	8	1	2	3	2
Y99. Other Maternal Exposures Affecting the Fetus	57	31	28	22	19
Diagnostic Grouping	1992 to 1994	2000 to 2002	2001 to 2003	2002 to 2004	2003 to 2005
One or More Reportable Diagnosis	1,347	1,186	1,214	1,197	1,083

Notes:

Frequencies include all children reported with a birth defect who were born in Michigan and whose mother was a resident at the time of birth. This enables the calculation of birth defects prevalence rates. Birth defect statistics sometimes reflect trends related to data reporting or new testing. See Data Quality Considerations for further details.

Columns do not add to diagnostic group totals nor column totals due to cases with multiple diagnosed conditions that cross diagnostic groupings.

Conditions are reportable if identified within the first two years of a child's life. The prevalence frequencies in this table represent cases diagnosed within the first year of life.

Diagnoses are coded using the 9th revision to the International Classification of Diseases - ICD 9 CM. Diagnostic Code Groupings used for congenital anomaly codes are as used by the Centers for Disease Control. (See Birth Defect Groups and ICD-9-CM Diagnosis Codes for the codes used to categorize birth defects.)

Source: Michigan Birth Defects Registry, Division for Vital Records & Health Statistics, Michigan Department of Community Health Reports Processed through April 15, 2008

Last Updated on September 29, 2008

Table 16
Mortality Rates of Michigan Children with Reported Birth Defects
by Summary Diagnostic Code Group and Birth Year,
Michigan Resident Children Born in Michigan During 1992-1994 and 2000-2005,
Cases Diagnosed within One Year from Birth
Moving Three-year Mortality Rates

Congenital Anomalies (740 - 759)

Diagnostic Grouping	1992 to 1994	2000 to 2002	2001 to 2003	2002 to 2004	2003 to 2005
A Congenital Anomalies of the Central Nervous System	166.3	110.8	128.6	132.6	126.2
B Congenital Anomalies of the Eye	30.3	28.4	29.9	31.5	24.5
C Congenital Anomalies of the Ear, Face and Neck	48.6	39.9	42.9	46.7	48.1
D Congenital Anomalies of the Heart and Circulatory System	93.2	79.3	82.4	76.8	67.3
E Congenital Anomalies of the Respiratory System	174.7	120.7	111.3	116.9	103.9
F Cleft Palate and Cleft Lip	75.9	53.3	68.1	85.7	76.1
G Congenital Anomalies of the Upper Alimentary Canal/ Digestive System	45.9	41.6	47.5	54.8	52.7
H Congenital Anomalies of the Genital and Urinary Systems	46.8	29.7	35.5	37.6	33.3
I Congenital Anomalies of the Musculoskeletal System	41.7	29.5	30.9	33.4	32.3
J Congenital Anomalies of the Integument	17.6	22.2	20.0	14.5	9.7
K Chromosomal Anomalies	176.0	174.2	178.8	178.1	182.0
L Other and Unspecified Congenital Anomalies	142.4	80.8	84.0	96.0	89.1

Table 16
Mortality Rates of Michigan Children with Reported Birth Defects
by Summary Diagnostic Code Group and Birth Year,
Michigan Resident Children Born in Michigan During 1992-1994 and 2000-2005,
Cases Diagnosed within One Year from Birth
Moving Three-year Mortality Rates
(Continued)

Other Reportable Conditions

Diagnostic Grouping		1992 to 1994	2000 to 2002	2001 to 2003	2002 to 2004	2003 to 2005
M	Infectious Conditions Occurring in the Perinatal Period	57.7	117.3	112.5	90.0	78.6
N	Familial/Congenital Neoplasms	*	*	*	-	-
O	Endocrine/Metabolic Disorders	69.7	54.7	59.7	58.4	46.0
P	Diseases of the Blood & Blood Forming Organs	80.2	66.6	57.5	49.7	50.7
Q	Other Diseases of the Central and Peripheral Nervous System	88.1	36.3	40.1	38.3	30.5
R	Other Diseases of the Eye	36.5	34.4	37.3	34.7	26.5
S	Hearing Deficiency	*	9.9	14.6	17.2	14.4
T	Other Diseases of the Heart & Circulatory System	85.3	85.0	74.8	80.4	73.9
U	Other Diseases of the Gastrointestinal System	47.5	36.8	42.9	44.0	37.6
V	Other Diseases of the Genital and Urinary Systems	*	*	*	*	*
W	Other Fetal/Placental Anomalies	*	-	-	-	54.1
X	Other Musculoskeletal System Diseases	-	-	-	-	-
Y	Maternal Exposures Affecting Fetus	44.0	31.4	35.5	36.0	30.8
One or More Reportable Diagnosis		47.8	39.5	40.8	41.2	36.5

Notes:

Rates are Per 1,000 Michigan Born Resident Live Births. Rates represent the infant mortality rate for children with a diagnosed birth defect. The rates include all deaths within the first year of life to children reported with a birth defect who were born in Michigan and whose mother was a resident at the time of birth. Birth defect statistics sometimes reflect trends related to data reporting or new testing. See Data Quality Considerations for further details.

*: Figure does not meet standards of reliability or precision.

Conditions are reportable if identified within the first two years of a child's life. The mortality data in this table represent cases diagnosed within the first year of life.

Diagnoses are coded using the 9th revision to the International Classification of Diseases - ICD 9 CM. Diagnostic Code Groupings used for congenital anomaly codes are as used by the Centers for Disease Control. (See Birth Defect Groups and ICD-9-CM Diagnosis Codes for the codes used to categorize birth defects.)

Source: Michigan Birth Defects Registry, Division for Vital Records & Health Statistics, Michigan Department of Community Health Reports Processed through April 15, 2008

Table 17
Mortality Rates of Michigan Children with Reported Birth Defects
by Detailed Diagnostic Code Group and Birth Year,
Michigan Resident Children Born in Michigan During 1992-1994 and 2000-2005,
Cases Diagnosed within One Year from Birth
Moving Three-year Mortality Rates

Congenital Anomalies (740 - 759)

Diagnostic Grouping	1992 to 1994	2000 to 2002	2001 to 2003	2002 to 2004	2003 to 2005
A Congenital Anomalies of the Central Nervous System	166.3	110.8	128.6	132.6	126.2
A01 Anencephalus	974.4	976.7	900.0	886.8	860.0
A02 Spina Bifida w/o Anencephaly	109.2	61.7	73.6	64.9	77.4
A03 Hydrocephalus w/o Spina Bifida	162.9	113.9	145.8	145.2	153.0
A04 Encephalocele	389.8	*	200.0	210.5	255.3
A05 Microcephalus	117.6	64.3	91.6	100.5	80.8
A99. All Other CNS Anomalies	127.8	99.1	117.1	111.7	106.4
Diagnostic Grouping	1992 to 1994	2000 to 2002	2001 to 2003	2002 to 2004	2003 to 2005
B Congenital Anomalies of the Eye	30.3	28.4	29.9	31.5	24.5
B01 Anophthalmos/Microphthalmos	222.2	151.9	114.9	111.1	95.9
B02 Congenital Cataract	*	*	61.9	*	*
B03 Aniridia	-	-	-	-	*
B99. All Other Congenital Anomalies of the Eye	15.7	18.3	20.1	23.6	19.9
Diagnostic Grouping	1992 to 1994	2000 to 2002	2001 to 2003	2002 to 2004	2003 to 2005
C Congenital Anomalies of the Ear, Face and Neck	48.6	39.9	42.9	46.7	48.1
C01 Anotia/Microtia	*	*	*	*	*
C99. All Other Congenital Anomalies of the Ear, Face and Neck	45.3	39.4	43.8	46.3	47.4

Table 17
Mortality Rates of Michigan Children with Reported Birth Defects
by Detailed Diagnostic Code Group and Birth Year,
Michigan Resident Children Born in Michigan During 1992-1994 and 2000-2005,
Cases Diagnosed within One Year from Birth
Moving Three-year Mortality Rates
(Continued)

Congenital Anomalies (740 - 759)

Diagnostic Grouping	1992 to 1994	2000 to 2002	2001 to 2003	2002 to 2004	2003 to 2005
D Congenital Anomalies of the Heart and Circulatory System	93.2	79.3	82.4	76.8	67.3
D01 Common Truncus	215.7	*	115.4	115.4	127.3
D02 Transposition of Great Vessels	186.9	130.4	137.1	165.7	134.7
D03 Tetralogy of Fallot	131.0	117.6	88.7	101.5	96.0
D04 Ventricular Septal Defect	74.9	61.9	64.1	68.7	59.1
D05 Atrial Septal Defect	77.1	59.9	67.8	62.0	52.5
D06 Endocardial Cushion Defect	273.9	136.4	117.6	107.1	130.0
D07 Pulmonary Valve Atresia and Stenosis	74.6	67.8	64.8	55.8	56.6
D08 Tricuspid Valve Atresia and Stenosis	285.7	138.5	85.7	*	*
D09 Ebstein's Anomaly	*	172.4	121.2	129.0	*
D10 Aortic Valve Stenosis	172.4	*	*	*	68.6
D11 Hypoplastic Left Heart Syndrome	444.4	339.6	315.5	284.8	264.5
D12 Patent Ductus Arteriosus	119.5	84.7	94.2	96.7	93.2
D13 Coarctation of Aorta	166.7	101.3	100.9	122.4	132.5
D14 Pulmonary Artery Anomalies	67.0	58.0	56.7	48.1	45.6
D99. All Other Congenital Anomalies of the Heart and Circulatory System	122.2	111.9	114.8	103.0	91.1
Diagnostic Grouping	1992 to 1994	2000 to 2002	2001 to 2003	2002 to 2004	2003 to 2005
E Congenital Anomalies of the Respiratory System	174.7	120.7	111.3	116.9	103.9
E01 Lung Agenesis/Hypoplasia	730.2	548.9	433.8	405.9	408.5
E02 Choanal Atresia	*	*	*	*	*
E99. All Other Congenital Anomalies of the Respiratory System	65.2	55.4	55.7	63.3	48.3
Diagnostic Grouping	1992 to 1994	2000 to 2002	2001 to 2003	2002 to 2004	2003 to 2005
F Cleft Palate and Cleft Lip	75.9	53.3	68.1	85.7	76.1
F01 Cleft Palate	82.2	71.4	86.1	102.6	70.0
F02 Cleft Lip w and w/o Cleft Palate	72.4	43.6	58.8	77.5	79.3

Table 17
Mortality Rates of Michigan Children with Reported Birth Defects
by Detailed Diagnostic Code Group and Birth Year,
Michigan Resident Children Born in Michigan During 1992-1994 and 2000-2005,
Cases Diagnosed within One Year from Birth
Moving Three-year Mortality Rates
(Continued)

Congenital Anomalies (740 - 759)

Diagnostic Grouping	1992 to 1994	2000 to 2002	2001 to 2003	2002 to 2004	2003 to 2005
G Congenital Anomalies of the Upper Alimentary Canal/ Digestive System	45.9	41.6	47.5	54.8	52.7
G01 Esophageal Atresia/ Tracheoesophageal Fistula	113.3	104.3	123.1	138.5	139.5
G02 Rectal and Large Intestinal Atresia/Stenosis	98.9	47.4	61.8	90.9	105.3
G03 Pyloric Stenosis	*	10.7	8.2	*	*
G04 Hirshsprung's Disease (congenital megacolon)	48.4	*	*	*	*
G05 Biliary Atresia	*	*	*	*	*
G99. Other Cong. Anomalies of Upper Alimentary Canal / Digestive System	62.1	63.1	74.8	85.0	77.2
Diagnostic Grouping	1992 to 1994	2000 to 2002	2001 to 2003	2002 to 2004	2003 to 2005
H Congenital Anomalies of the Genital and Urinary Systems	46.8	29.7	35.5	37.6	33.3
H01 Renal Agenesis/Hypoplasia	301.5	190.7	223.7	247.7	222.8
H02 Bladder Exstrophy	*	-	-	-	*
H03 Obstructive Genitourinary Defects	54.1	29.8	37.6	48.4	42.6
H04 Hypospadias & Epispadias	*	17.8	18.8	20.9	17.4
H99. All Other Congenital Anomalies of the Genital & Urinary Systems	39.4	26.5	32.1	33.9	30.3
Diagnostic Grouping	1992 to 1994	2000 to 2002	2001 to 2003	2002 to 2004	2003 to 2005
I Congenital Anomalies of the Musculoskeletal System	41.7	29.5	30.9	33.4	32.3
I01 Upper Limb Reduction Deformities	82.1	*	60.6	81.4	93.3
I02 Lower Limb Reduction Deformities	145.2	*	*	*	*
I03 Gastroschisis/Omphalocele	95.9	105.3	139.7	123.7	134.3
I04 Congenital Hip Dislocation	17.5	*	*	*	*
I05 Diaphragmatic Hernia	305.3	300.0	327.7	317.1	273.4
I99. All Other Congenital Anomalies of the Musculoskeletal System	36.3	24.6	24.3	28.0	25.9

Table 17
Mortality Rates of Michigan Children with Reported Birth Defects
by Detailed Diagnostic Code Group and Birth Year,
Michigan Resident Children Born in Michigan During 1992-1994 and 2000-2005,
Cases Diagnosed within One Year from Birth
Moving Three-year Mortality Rates
(Continued)

Congenital Anomalies (740 - 759)

Diagnostic Grouping	1992 to 1994	2000 to 2002	2001 to 2003	2002 to 2004	2003 to 2005
J Congenital Anomalies of the Integument	17.6	22.2	20.0	14.5	9.7
Diagnostic Grouping	1992 to 1994	2000 to 2002	2001 to 2003	2002 to 2004	2003 to 2005
K Chromosomal Anomalies	176.0	174.2	178.8	178.1	182.0
K01 Trisomy 13	719.3	794.1	757.6	800.0	785.7
K02 Down Syndrome	90.9	97.3	101.4	93.0	86.6
K03 Trisomy 18	842.1	703.7	671.6	612.9	666.7
K99. All Other Chromosomal Anomalies	91.8	148.6	162.9	177.3	193.2
Diagnostic Grouping	1992 to 1994	2000 to 2002	2001 to 2003	2002 to 2004	2003 to 2005
L Other and Unspecified Congenital Anomalies	142.4	80.8	84.0	96.0	89.1

Table 17
Mortality Rates of Michigan Children with Reported Birth Defects
by Detailed Diagnostic Code Group and Birth Year,
Michigan Resident Children Born in Michigan During 1992-1994 and 2000-2005,
Cases Diagnosed within One Year from Birth
Moving Three-year Mortality Rates
(Continued)

Other Reportable Conditions

Diagnostic Grouping	1992 to 1994	2000 to 2002	2001 to 2003	2002 to 2004	2003 to 2005
M Infectious Conditions Occurring in the Perinatal Period	57.7	117.3	112.5	90.0	78.6
M01 Syphilis	23.4	*	*	*	*
M02 Other Infections	113.5	130.2	129.0	98.9	88.6
Diagnostic Grouping	1992 to 1994	2000 to 2002	2001 to 2003	2002 to 2004	2003 to 2005
N Familial/Congenital Neoplasms	*	*	*	-	-
Diagnostic Grouping	1992 to 1994	2000 to 2002	2001 to 2003	2002 to 2004	2003 to 2005
O Endocrine/Metabolic Disorders	69.7	54.7	59.7	58.4	46.0
Diagnostic Grouping	1992 to 1994	2000 to 2002	2001 to 2003	2002 to 2004	2003 to 2005
P Diseases of the Blood & Blood Forming Organs	80.2	66.6	57.5	49.7	50.7
Diagnostic Grouping	1992 to 1994	2000 to 2002	2001 to 2003	2002 to 2004	2003 to 2005
Q Other Diseases of the Central and Peripheral Nervous System	88.1	36.3	40.1	38.3	30.5
Diagnostic Grouping	1992 to 1994	2000 to 2002	2001 to 2003	2002 to 2004	2003 to 2005
R Other Diseases of the Eye	36.5	34.4	37.3	34.7	26.5
Diagnostic Grouping	1992 to 1994	2000 to 2002	2001 to 2003	2002 to 2004	2003 to 2005
S Hearing Deficiency	*	9.9	14.6	17.2	14.4
Diagnostic Grouping	1992 to 1994	2000 to 2002	2001 to 2003	2002 to 2004	2003 to 2005
T Other Diseases of the Heart & Circulatory System	85.3	85.0	74.8	80.4	73.9

Table 17
Mortality Rates of Michigan Children with Reported Birth Defects
by Detailed Diagnostic Code Group and Birth Year,
Michigan Resident Children Born in Michigan During 1992-1994 and 2000-2005,
Cases Diagnosed within One Year from Birth
Moving Three-year Mortality Rates
(Continued)

Other Reportable Conditions

Diagnostic Grouping	1992 to 1994	2000 to 2002	2001 to 2003	2002 to 2004	2003 to 2005
U Other Diseases of the Gastrointestinal System	47.5	36.8	42.9	44.0	37.6
Diagnostic Grouping	1992 to 1994	2000 to 2002	2001 to 2003	2002 to 2004	2003 to 2005
V Other Diseases of the Genital and Urinary Systems	*	*	*	*	*
Diagnostic Grouping	1992 to 1994	2000 to 2002	2001 to 2003	2002 to 2004	2003 to 2005
W Other Fetal/Placental Anomalies	*	-	-	-	54.1
Diagnostic Grouping	1992 to 1994	2000 to 2002	2001 to 2003	2002 to 2004	2003 to 2005
X Other Musculoskeletal System Diseases	-	-	-	-	-
Diagnostic Grouping	1992 to 1994	2000 to 2002	2001 to 2003	2002 to 2004	2003 to 2005
Y Maternal Exposures Affecting Fetus	44.0	31.4	35.5	36.0	30.8
Y01 Fetal Alcohol Syndrome	59.7	*	*	*	*
Y99. Other Maternal Exposures Affecting the Fetus	42.6	32.0	34.7	33.5	29.5
Diagnostic Grouping	1992 to 1994	2000 to 2002	2001 to 2003	2002 to 2004	2003 to 2005
One or More Reportable Diagnosis	47.8	39.5	40.8	41.2	36.5

Notes:

Rates are per 1,000 Michigan Born Resident Live Births. Rates represent the infant mortality rate for children with a diagnosed birth defect. The rates include all deaths within the first year of life to children reported with a birth defect who were born in Michigan and whose mother was a resident at the time of birth. Birth defect statistics sometimes reflect trends related to data reporting or new testing. See Data Quality Considerations for further details. **Conditions** are reportable if identified within the first two years of a child's life. The prevalence frequencies in this table represent cases diagnosed within the first year of life.

*: Figure does not meet standards of reliability or precision.

Diagnoses are coded using the 9th revision to the International Classification of Diseases - ICD 9 CM. Diagnostic Code Groupings used for congenital anomaly codes are as used by the Centers for Disease Control. (See Birth Defect Groups and ICD-9-CM Diagnosis Codes for the codes used to categorize birth defects.)

Source: Michigan Birth Defects Registry, Division for Vital Records & Health Statistics, Michigan Department of Community Health Reports Processed through April 15, 2008

Last Updated on September 29, 2008

Table 18
Infant Deaths of Michigan Children with Reported Birth Defects
by Summary Diagnostic Code Group and Birth Year,
Michigan Resident Children Born in Michigan During 1992-2005,
Cases Diagnosed within One Year from Birth
Six-year Infant Mortality Totals

Congenital Anomalies (740 - 759)

Diagnostic Grouping	1992 to 1997	1993 to 1998	1994 to 1999	1995 to 2000	1996 to 2001	1997 to 2002	1998 to 2003	1999 to 2004	2000 to 2005
A Congenital Anomalies of the Central Nervous System	358	331	327	308	320	338	349	364	352
B Congenital Anomalies of the Eye	47	45	49	44	44	53	54	58	57
C Congenital Anomalies of the Ear, Face and Neck	62	57	51	47	53	57	51	51	57
D Congenital Anomalies of the Heart and Circulatory System	1,083	1,056	1,033	1,008	1,014	1,020	1,048	1,032	984
E Congenital Anomalies of the Respiratory System	399	400	417	420	409	424	456	451	423
F Cleft Palate and Cleft Lip	82	71	74	65	61	64	71	79	77
G Congenital Anomalies of the Upper Alimentary Canal/ Digestive System	185	187	180	175	173	174	178	179	173
H Congenital Anomalies of the Genital and Urinary Systems	378	348	332	324	315	331	356	366	357
I Congenital Anomalies of the Musculoskeletal System	449	408	384	379	373	365	381	401	391
J Congenital Anomalies of the Integument	38	36	29	29	30	30	31	34	33
K Chromosomal Anomalies	272	246	254	273	285	282	305	306	298
L Other and Unspecified Congenital Anomalies	226	230	237	251	277	291	317	332	315

Table 18
Infant Deaths of Michigan Children with Reported Birth Defects
by Summary Diagnostic Code Group and Birth Year,
Michigan Resident Children Born in Michigan During 1992-2005,
Cases Diagnosed within One Year from Birth
Six-year Infant Mortality Totals
(Continued)

Other Reportable Conditions

Diagnostic Grouping	1992 to 1997	1993 to 1998	1994 to 1999	1995 to 2000	1996 to 2001	1997 to 2002	1998 to 2003	1999 to 2004	2000 to 2005
M Infectious Conditions Occurring in the Perinatal Period	60	58	56	62	78	87	91	87	82
N Familial/Congenital Neoplasms	10	10	8	6	6	3	2	2	2
O Endocrine/Metabolic Disorders	125	128	125	123	129	129	133	134	126
P Diseases of the Blood & Blood Forming Organs	103	110	114	115	110	106	104	95	86
Q Other Diseases of the Central and Peripheral Nervous System	81	81	77	70	68	68	66	56	50
R Other Diseases of the Eye	91	96	91	98	110	116	125	125	116
S Hearing Deficiency	7	8	7	9	10	17	27	30	30
T Other Diseases of the Heart & Circulatory System	265	248	242	238	231	234	235	229	201
U Other Diseases of the Gastrointestinal System	246	236	219	205	203	213	211	201	189
V Other Diseases of the Genital and Urinary Systems	5	4	4	2	2	2	3	4	4
W Other Fetal/Placental Anomalies	1	-	-	-	-	-	-	-	6
X Other Musculoskeletal System Diseases	-	-	-	-	-	-	-	-	-
Y Maternal Exposures Affecting Fetus	90	75	71	59	63	59	62	61	53
One or More Reportable Diagnosis	2,471	2,390	2,339	2,311	2,326	2,363	2,401	2,381	2,269

Notes:

Frequencies include all children reported with a birth defect who were born in Michigan and whose mother was a resident at the time of birth. This enables the calculation of birth defects mortality rates. Birth defect statistics sometimes reflect trends related to data reporting or new testing. See Data Quality Considerations for further details. Columns do not add to diagnostic group totals nor column totals due to cases with multiple diagnosed conditions that cross diagnostic groupings.

Conditions are reportable if identified within the first two years of a child's life. The mortality data in this table represent cases diagnosed within the first year of life.

Diagnoses are coded using the 9th revision to the International Classification of Diseases - ICD 9 CM. Diagnostic Code Groupings used for congenital anomaly codes are as used by the Centers for Disease Control. (See Birth Defect Groups and ICD-9-CM Diagnosis Codes for the codes used to categorize birth defects.)

Source: Michigan Birth Defects Registry, Division for Vital Records & Health Statistics, Michigan Department of Community Health Reports Processed through April 15, 2008

Table 19
Infant Deaths of Michigan Children with Reported Birth Defects
by Detailed Diagnostic Code Group and Birth Year,
Michigan Resident Children Born in Michigan During 1992-2005,
Cases Diagnosed within One Year from Birth
Six-year Infant Mortality Totals

Congenital Anomalies (740 - 759)

Diagnostic Grouping	1992 to 1997	1993 to 1998	1994 to 1999	1995 to 2000	1996 to 2001	1997 to 2002	1998 to 2003	1999 to 2004	2000 to 2005
A Congenital Anomalies of the Central Nervous System	358	331	327	308	320	338	349	364	352
A01 Anencephalus	66	66	66	72	66	76	80	86	85
A02 Spina Bifida w/o Anencephaly	34	34	33	29	31	29	26	25	23
A03 Hydrocephalus w/o Spina Bifida	107	98	93	87	94	95	101	102	100
A04 Encephalocele	30	24	20	16	16	14	16	14	17
A05 Microcephalus	51	44	49	40	40	51	53	58	53
A99. All Other CNS Anomalies	128	116	121	113	124	134	140	153	153
Diagnostic Grouping	1992 to 1997	1993 to 1998	1994 to 1999	1995 to 2000	1996 to 2001	1997 to 2002	1998 to 2003	1999 to 2004	2000 to 2005
B Congenital Anomalies of the Eye	47	45	49	44	44	53	54	58	57
B01 Anophthalmos/Microphthalmos	16	12	12	12	14	18	18	18	19
B02 Congenital Cataract	5	4	5	4	5	5	7	7	8
B03 Aniridia	-	-	-	-	-	-	-	-	1
B99. All Other Congenital Anomalies of the Eye	29	31	34	30	30	33	32	38	37
Diagnostic Grouping	1992 to 1997	1993 to 1998	1994 to 1999	1995 to 2000	1996 to 2001	1997 to 2002	1998 to 2003	1999 to 2004	2000 to 2005
C Congenital Anomalies of the Ear, Face and Neck	62	57	51	47	53	57	51	51	57
C01 Anotia/Microtia	3	2	1	2	3	3	5	5	5
C99. All Other Congenital Anomalies of the Ear, Face and Neck	59	55	50	45	51	55	49	49	55

Table 19
Infant Deaths of Michigan Children with Reported Birth Defects
by Detailed Diagnostic Code Group and Birth Year,
Michigan Resident Children Born in Michigan During 1992-2005,
Cases Diagnosed within One Year from Birth
Six-year Infant Mortality Totals
(Continued)

Congenital Anomalies (740 - 759)

Diagnostic Grouping	1992 to 1997	1993 to 1998	1994 to 1999	1995 to 2000	1996 to 2001	1997 to 2002	1998 to 2003	1999 to 2004	2000 to 2005
D Congenital Anomalies of the Heart and Circulatory System	1,083	1,056	1,033	1,008	1,014	1,020	1,048	1,032	984
D01 Common Truncus	20	19	18	14	15	14	11	11	11
D02 Transposition of Great Vessels	68	70	63	63	61	62	56	54	50
D03 Tetralogy of Fallot	53	54	58	56	52	49	51	48	41
D04 Ventricular Septal Defect	232	218	209	206	202	197	199	206	184
D05 Atrial Septal Defect	261	271	270	266	281	291	306	312	313
D06 Endocardial Cushion Defect	75	65	62	54	54	48	44	46	47
D07 Pulmonary Valve Atresia and Stenosis	51	54	56	57	65	65	66	59	53
D08 Tricuspid Valve Atresia and Stenosis	25	21	17	18	16	16	13	12	12
D09 Ebstein's Anomaly	4	4	5	13	18	25	25	25	22
D10 Aortic Valve Stenosis	25	27	23	22	23	22	16	13	12
D11 Hypoplastic Left Heart Syndrome	127	124	130	129	132	130	119	106	95
D12 Patent Ductus Arteriosus	442	401	370	342	324	315	330	345	344
D13 Coarctation of Aorta	60	60	64	63	58	61	57	59	54
D14 Pulmonary Artery Anomalies	78	80	86	89	99	93	97	91	83
D99. All Other Congenital Anomalies of the Heart and Circulatory System	622	613	598	584	597	599	609	609	580
Diagnostic Grouping	1992 to 1997	1993 to 1998	1994 to 1999	1995 to 2000	1996 to 2001	1997 to 2002	1998 to 2003	1999 to 2004	2000 to 2005
E Congenital Anomalies of the Respiratory System	399	400	417	420	409	424	456	451	423
E01 Lung Agenesis/Hypoplasia	287	292	301	312	300	291	313	292	274
E02 Choanal Atresia	8	9	9	9	11	12	7	5	5
E99. All Other Congenital Anomalies of the Respiratory System	118	112	119	113	114	142	157	176	169
Diagnostic Grouping	1992 to 1997	1993 to 1998	1994 to 1999	1995 to 2000	1996 to 2001	1997 to 2002	1998 to 2003	1999 to 2004	2000 to 2005
F Cleft Palate and Cleft Lip	82	71	74	65	61	64	71	79	77
F01 Cleft Palate	33	31	32	28	25	27	31	31	29
F02 Cleft Lip w and w/o Cleft Palate	49	40	42	37	36	37	40	48	48

Table 19
Infant Deaths of Michigan Children with Reported Birth Defects
by Detailed Diagnostic Code Group and Birth Year,
Michigan Resident Children Born in Michigan During 1992-2005,
Cases Diagnosed within One Year from Birth
Six-year Infant Mortality Totals
(Continued)

Congenital Anomalies (740 - 759)

Diagnostic Grouping	1992 to 1997	1993 to 1998	1994 to 1999	1995 to 2000	1996 to 2001	1997 to 2002	1998 to 2003	1999 to 2004	2000 to 2005
G Congenital Anomalies of the Upper Alimentary Canal/ Digestive System	185	187	180	175	173	174	178	179	173
G01 Esophageal Atresia/ Tracheoesophageal Fistula	38	31	28	27	26	27	28	31	30
G02 Rectal and Large Intestinal Atresia/Stenosis	39	41	41	37	30	28	27	28	27
G03 Pyloric Stenosis	6	7	5	9	11	11	13	13	12
G04 Hirshsprung's Disease (congenital megacolon)	8	8	8	5	7	7	8	7	6
G05 Biliary Atresia	6	7	8	8	8	6	6	6	5
G99. Other Cong. Anomalies of Upper Alimentary Canal / Digestive System	111	119	118	113	116	118	120	120	118
Diagnostic Grouping	1992 to 1997	1993 to 1998	1994 to 1999	1995 to 2000	1996 to 2001	1997 to 2002	1998 to 2003	1999 to 2004	2000 to 2005
H Congenital Anomalies of the Genital and Urinary Systems	378	348	332	324	315	331	356	366	357
H01 Renal Agenesis/Hypoplasia	108	101	99	98	89	89	99	95	90
H02 Bladder Exstrophy	4	4	3	3	3	2	2	1	2
H03 Obstructive Genitourinary Defects	59	52	45	51	45	50	58	63	64
H04 Hypospadias & Epispadias	6	9	8	12	21	29	29	38	43
H99. All Other Congenital Anomalies of the Genital & Urinary Systems	301	273	262	247	239	252	269	278	268
Diagnostic Grouping	1992 to 1997	1993 to 1998	1994 to 1999	1995 to 2000	1996 to 2001	1997 to 2002	1998 to 2003	1999 to 2004	2000 to 2005
I Congenital Anomalies of the Musculoskeletal System	449	408	384	379	373	365	381	401	391
I01 Upper Limb Reduction Deformities	21	19	16	13	12	9	9	12	12
I02 Lower Limb Reduction Deformities	16	15	15	10	11	11	6	7	6
I03 Gastroschisis/Omphalocele	50	55	55	51	49	45	47	43	47
I04 Congenital Hip Dislocation	16	14	11	9	10	10	8	8	7
I05 Diaphragmatic Hernia	86	75	75	76	68	65	69	71	68
I99. All Other Congenital Anomalies of the Musculoskeletal System	318	284	262	261	261	257	268	295	287

Table 19
Infant Deaths of Michigan Children with Reported Birth Defects
by Detailed Diagnostic Code Group and Birth Year,
Michigan Resident Children Born in Michigan During 1992-2005,
Cases Diagnosed within One Year from Birth
Six-year Infant Mortality Totals
(Continued)

Congenital Anomalies (740 - 759)

Diagnostic Grouping	1992 to 1997	1993 to 1998	1994 to 1999	1995 to 2000	1996 to 2001	1997 to 2002	1998 to 2003	1999 to 2004	2000 to 2005
J Congenital Anomalies of the Integument	38	36	29	29	30	30	31	34	33
Diagnostic Grouping	1992 to 1997	1993 to 1998	1994 to 1999	1995 to 2000	1996 to 2001	1997 to 2002	1998 to 2003	1999 to 2004	2000 to 2005
K Chromosomal Anomalies	272	246	254	273	285	282	305	306	298
K01 Trisomy 13	67	55	51	57	56	55	56	59	60
K02 Down Syndrome	75	68	71	72	82	82	90	93	89
K03 Trisomy 18	89	81	85	83	83	80	87	85	76
K99. All Other Chromosomal Anomalies	52	52	60	78	86	88	105	101	105
Diagnostic Grouping	1992 to 1997	1993 to 1998	1994 to 1999	1995 to 2000	1996 to 2001	1997 to 2002	1998 to 2003	1999 to 2004	2000 to 2005
L Other and Unspecified Congenital Anomalies	226	230	237	251	277	291	317	332	315

Table 19
Infant Deaths of Michigan Children with Reported Birth Defects
by Detailed Diagnostic Code Group and Birth Year,
Michigan Resident Children Born in Michigan During 1992-2005,
Cases Diagnosed within One Year from Birth
Six-year Infant Mortality Totals
(Continued)

Other Reportable Conditions

Diagnostic Grouping	1992 to 1997	1993 to 1998	1994 to 1999	1995 to 2000	1996 to 2001	1997 to 2002	1998 to 2003	1999 to 2004	2000 to 2005
M Infectious Conditions Occurring in the Perinatal Period	60	58	56	62	78	87	91	87	82
M01 Syphilis	13	11	6	4	3	4	1	1	2
M02 Other Infections	47	47	50	58	75	83	90	86	80
Diagnostic Grouping	1992 to 1997	1993 to 1998	1994 to 1999	1995 to 2000	1996 to 2001	1997 to 2002	1998 to 2003	1999 to 2004	2000 to 2005
N Familial/Congenital Neoplasms	10	10	8	6	6	3	2	2	2
Diagnostic Grouping	1992 to 1997	1993 to 1998	1994 to 1999	1995 to 2000	1996 to 2001	1997 to 2002	1998 to 2003	1999 to 2004	2000 to 2005
O Endocrine/Metabolic Disorders	125	128	125	123	129	129	133	134	126
Diagnostic Grouping	1992 to 1997	1993 to 1998	1994 to 1999	1995 to 2000	1996 to 2001	1997 to 2002	1998 to 2003	1999 to 2004	2000 to 2005
P Diseases of the Blood & Blood Forming Organs	103	110	114	115	110	106	104	95	86
Diagnostic Grouping	1992 to 1997	1993 to 1998	1994 to 1999	1995 to 2000	1996 to 2001	1997 to 2002	1998 to 2003	1999 to 2004	2000 to 2005
Q Other Diseases of the Central and Peripheral Nervous System	81	81	77	70	68	68	66	56	50
Diagnostic Grouping	1992 to 1997	1993 to 1998	1994 to 1999	1995 to 2000	1996 to 2001	1997 to 2002	1998 to 2003	1999 to 2004	2000 to 2005
R Other Diseases of the Eye	91	96	91	98	110	116	125	125	116
Diagnostic Grouping	1992 to 1997	1993 to 1998	1994 to 1999	1995 to 2000	1996 to 2001	1997 to 2002	1998 to 2003	1999 to 2004	2000 to 2005
S Hearing Deficiency	7	8	7	9	10	17	27	30	30
Diagnostic Grouping	1992 to 1997	1993 to 1998	1994 to 1999	1995 to 2000	1996 to 2001	1997 to 2002	1998 to 2003	1999 to 2004	2000 to 2005
T Other Diseases of the Heart & Circulatory System	265	248	242	238	231	234	235	229	201

Table 19
Infant Deaths of Michigan Children with Reported Birth Defects
by Detailed Diagnostic Code Group and Birth Year,
Michigan Resident Children Born in Michigan During 1992-2005,
Cases Diagnosed within One Year from Birth
Six-year Infant Mortality Totals
(Continued)

Other Reportable Conditions

Diagnostic Grouping	1992 to 1997	1993 to 1998	1994 to 1999	1995 to 2000	1996 to 2001	1997 to 2002	1998 to 2003	1999 to 2004	2000 to 2005
U Other Diseases of the Gastrointestinal System	246	236	219	205	203	213	211	201	189
Diagnostic Grouping	1992 to 1997	1993 to 1998	1994 to 1999	1995 to 2000	1996 to 2001	1997 to 2002	1998 to 2003	1999 to 2004	2000 to 2005
V Other Diseases of the Genital and Urinary Systems	5	4	4	2	2	2	3	4	4
Diagnostic Grouping	1992 to 1997	1993 to 1998	1994 to 1999	1995 to 2000	1996 to 2001	1997 to 2002	1998 to 2003	1999 to 2004	2000 to 2005
W Other Fetal/Placental Anomalies	1	-	-	-	-	-	-	-	6
Diagnostic Grouping	1992 to 1997	1993 to 1998	1994 to 1999	1995 to 2000	1996 to 2001	1997 to 2002	1998 to 2003	1999 to 2004	2000 to 2005
X Other Musculoskeletal System Diseases	-	-	-	-	-	-	-	-	-
Diagnostic Grouping	1992 to 1997	1993 to 1998	1994 to 1999	1995 to 2000	1996 to 2001	1997 to 2002	1998 to 2003	1999 to 2004	2000 to 2005
Y Maternal Exposures Affecting Fetus	90	75	71	59	63	59	62	61	53
Y01 Fetal Alcohol Syndrome	13	10	10	7	6	4	4	5	3
Y99. Other Maternal Exposures Affecting the Fetus	79	66	62	53	58	56	59	57	50
Diagnostic Grouping	1992 to 1997	1993 to 1998	1994 to 1999	1995 to 2000	1996 to 2001	1997 to 2002	1998 to 2003	1999 to 2004	2000 to 2005
One or More Reportable Diagnosis	2,471	2,390	2,339	2,311	2,326	2,363	2,401	2,381	2,269

Notes:

Frequencies include all children reported with a birth defect who were born in Michigan and whose mother was a resident at the time of birth. This enables the calculation of birth defects prevalence rates. Birth defect statistics sometimes reflect trends related to data reporting or new testing. See Data Quality Considerations for further details.

Columns do not add to diagnostic group totals nor column totals due to cases with multiple diagnosed conditions that cross diagnostic groupings.

Conditions are reportable if identified within the first two years of a child's life. The prevalence frequencies in this table represent cases diagnosed within the first year of life.

Diagnoses are coded using the 9th revision to the International Classification of Diseases - ICD 9 CM. Diagnostic Code Groupings used for congenital anomaly codes are as used by the Centers for Disease Control. (See Birth Defect Groups and ICD-9-CM Diagnosis Codes for the codes used to categorize birth defects.)

Source: Michigan Birth Defects Registry, Division for Vital Records & Health Statistics, Michigan Department of Community Health Reports Processed through April 15, 2008

Last Updated on September 29, 2008

Table 20
Mortality Rates of Michigan Children with Reported Birth Defects
by Summary Diagnostic Code Group and Birth Year,
Michigan Resident Children Born in Michigan During 1992-2005,
Cases Diagnosed within One Year from Birth
Moving Six-year Mortality Rates

Congenital Anomalies (740 - 759)

Diagnostic Grouping	1992 to 1997	1993 to 1998	1994 to 1999	1995 to 2000	1996 to 2001	1997 to 2002	1998 to 2003	1999 to 2004	2000 to 2005
A Congenital Anomalies of the Central Nervous System	152.3	145.5	142.7	129.7	128.8	127.1	126.5	125.1	118.6
B Congenital Anomalies of the Eye	31.1	29.1	30.5	25.4	23.8	26.6	25.5	27.1	26.5
C Congenital Anomalies of the Ear, Face and Neck	45.5	45.0	43.0	41.4	46.5	47.5	42.2	41.8	44.0
D Congenital Anomalies of the Heart and Circulatory System	89.6	86.6	85.0	84.8	83.5	82.8	83.0	78.9	72.9
E Congenital Anomalies of the Respiratory System	182.4	190.6	197.8	190.5	164.6	152.7	142.4	129.0	111.4
F Cleft Palate and Cleft Lip	67.3	59.7	60.5	52.5	48.8	51.2	57.2	64.6	64.7
G Congenital Anomalies of the Upper Alimentary Canal/ Digestive System	46.7	48.1	47.8	46.5	44.9	45.0	46.5	47.6	46.8
H Congenital Anomalies of the Genital and Urinary Systems	43.0	39.8	37.2	34.6	32.1	32.1	33.3	33.0	31.5
I Congenital Anomalies of the Musculoskeletal System	41.9	40.0	38.5	37.3	34.6	31.8	31.9	32.7	30.8
J Congenital Anomalies of the Integument	17.0	17.4	14.7	15.8	16.6	16.9	17.7	17.5	14.7
K Chromosomal Anomalies	169.6	161.7	166.4	178.2	179.6	176.5	185.7	181.5	178.1
L Other and Unspecified Congenital Anomalies	153.5	164.9	160.0	138.6	117.5	104.0	98.9	94.7	84.9

Table 20
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Moving Six-year Mortality Rates
(Continued)

Other Reportable Conditions

Diagnostic Grouping	1992 to 1997	1993 to 1998	1994 to 1999	1995 to 2000	1996 to 2001	1997 to 2002	1998 to 2003	1999 to 2004	2000 to 2005
M Infectious Conditions Occurring in the Perinatal Period	62.5	66.0	71.2	80.9	97.0	99.3	101.9	101.9	102.0
N Familial/Congenital Neoplasms	181.8	166.7	125.0	83.3	77.9	*	*	*	*
O Endocrine/Metabolic Disorders	72.1	71.2	64.9	59.0	57.7	55.1	53.9	53.9	50.6
P Diseases of the Blood & Blood Forming Organs	83.9	90.2	94.7	94.3	91.5	83.9	77.6	68.1	58.1
Q Other Diseases of the Central and Peripheral Nervous System	74.0	72.7	65.1	56.0	52.1	49.6	46.3	38.0	33.4
R Other Diseases of the Eye	31.0	30.7	27.3	28.3	30.5	31.7	33.6	32.8	30.5
S Hearing Deficiency	26.9	23.4	14.3	11.5	7.9	9.5	12.7	12.7	11.9
T Other Diseases of the Heart & Circulatory System	83.4	80.1	81.5	84.6	82.7	82.0	82.1	85.1	80.0
U Other Diseases of the Gastrointestinal System	43.9	43.4	41.8	39.4	38.6	41.0	41.0	39.4	37.2
V Other Diseases of the Genital and Urinary Systems	*	*	*	*	*	*	*	*	*
W Other Fetal/Placental Anomalies	*	-	-	-	-	-	-	-	53.1
X Other Musculoskeletal System Diseases	-	-	-	-	-	-	-	-	-
Y Maternal Exposures Affecting Fetus	34.5	29.0	29.9	27.2	29.8	29.6	33.6	35.0	31.2
One or More Reportable Diagnosis	47.1	46.7	46.3	45.3	43.7	42.9	42.5	41.1	38.0

Notes:

Rates are Per 1,000 Michigan Born Resident Live Births. Rates represent the infant mortality rate for children with a diagnosed birth defect. The rates include all deaths within the first year of life to children reported with a birth defect who were born in Michigan and whose mother was a resident at the time of birth. Birth defect statistics sometimes reflect trends related to data reporting or new testing. See Data Quality Considerations for further details.

*: Figure does not meet standards of reliability or precision.

Conditions are reportable if identified within the first two years of a child's life. The mortality data in this table represent cases diagnosed within the first year of life.

Diagnoses are coded using the 9th revision to the International Classification of Diseases - ICD 9 CM. Diagnostic Code Groupings used for congenital anomaly codes are as used by the Centers for Disease Control. (See Birth Defect Groups and ICD-9-CM Diagnosis Codes for the codes used to categorize birth defects.)

Source: Michigan Birth Defects Registry, Division for Vital Records & Health Statistics, Michigan Department of Community Health Reports Processed through April 15, 2008

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Moving Six-year Mortality Rates

Congenital Anomalies (740 - 759)

Diagnostic Grouping	1992 to 1997	1993 to 1998	1994 to 1999	1995 to 2000	1996 to 2001	1997 to 2002	1998 to 2003	1999 to 2004	2000 to 2005
A Congenital Anomalies of the Central Nervous System	152.3	145.5	142.7	129.7	128.8	127.1	126.5	125.1	118.6
A01 Anencephalus	956.5	956.5	956.5	960.0	956.5	962.0	941.2	924.7	914.0
A02 Spina Bifida w/o Anencephaly	98.8	100.3	101.5	90.6	95.7	91.8	83.1	77.2	69.7
A03 Hydrocephalus w/o Spina Bifida	149.0	146.1	138.0	126.6	129.5	125.5	134.3	131.1	132.1
A04 Encephalocele	326.1	307.7	294.1	246.2	254.0	222.2	238.8	191.8	202.4
A05 Microcephalus	102.6	91.5	95.7	73.8	70.4	81.0	79.0	80.8	72.4
A99. All Other CNS Anomalies	127.0	117.6	119.4	107.6	111.3	108.4	106.3	108.2	103.1
Diagnostic Grouping	1992 to 1997	1993 to 1998	1994 to 1999	1995 to 2000	1996 to 2001	1997 to 2002	1998 to 2003	1999 to 2004	2000 to 2005
B Congenital Anomalies of the Eye	31.1	29.1	30.5	25.4	23.8	26.6	25.5	27.1	26.5
B01 Anophthalmos/Microphthalmos	142.9	100.8	96.8	97.6	108.5	124.1	118.4	122.4	125.0
B02 Congenital Cataract	*	*	*	*	*	*	37.6	37.2	41.7
B03 Aniridia	-	-	-	-	-	-	-	-	*
B99. All Other Congenital Anomalies of the Eye	21.9	23.0	24.3	19.7	18.2	18.5	16.9	19.7	19.0
Diagnostic Grouping	1992 to 1997	1993 to 1998	1994 to 1999	1995 to 2000	1996 to 2001	1997 to 2002	1998 to 2003	1999 to 2004	2000 to 2005
C Congenital Anomalies of the Ear, Face and Neck	45.5	45.0	43.0	41.4	46.5	47.5	42.2	41.8	44.0
C01 Anotia/Microtia	*	*	*	*	*	*	*	*	*
C99. All Other Congenital Anomalies of the Ear, Face and Neck	44.0	44.2	43.1	40.7	45.9	47.2	41.7	41.3	43.4

Table 21
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Michigan Resident Children Born in Michigan During 1992-2005,
Cases Diagnosed within One Year from Birth
Moving Six-year Mortality Rates
(Continued)

Congenital Anomalies (740 - 759)

Diagnostic Grouping	1992 to 1997	1993 to 1998	1994 to 1999	1995 to 2000	1996 to 2001	1997 to 2002	1998 to 2003	1999 to 2004	2000 to 2005
D Congenital Anomalies of the Heart and Circulatory System	89.6	86.6	85.0	84.8	83.5	82.8	83.0	78.9	72.9
D01 Common Truncus	208.3	195.9	185.6	162.8	163.0	152.2	118.3	122.2	120.9
D02 Transposition of Great Vessels	184.3	191.3	176.5	178.5	171.3	168.9	156.9	155.6	132.6
D03 Tetralogy of Fallot	120.7	122.7	133.0	134.3	125.6	120.7	124.4	123.1	106.5
D04 Ventricular Septal Defect	72.0	68.0	66.5	67.5	66.5	64.9	65.2	68.5	60.4
D05 Atrial Septal Defect	71.9	69.4	65.3	63.0	64.4	64.1	63.6	60.2	55.7
D06 Endocardial Cushion Defect	225.9	195.8	184.0	168.8	167.2	149.1	132.5	134.9	132.8
D07 Pulmonary Valve Atresia and Stenosis	61.8	64.8	65.6	68.9	74.5	76.0	76.5	70.2	62.0
D08 Tricuspid Valve Atresia and Stenosis	257.7	225.8	180.9	195.7	150.9	140.4	114.0	109.1	105.3
D09 Ebstein's Anomaly	*	*	*	136.8	132.4	153.4	149.7	152.4	141.9
D10 Aortic Valve Stenosis	163.4	181.2	141.1	125.7	129.2	116.4	81.2	64.4	61.5
D11 Hypoplastic Left Heart Syndrome	444.1	447.7	465.9	459.1	444.4	423.5	387.6	344.2	302.5
D12 Patent Ductus Arteriosus	110.6	102.9	98.0	98.3	94.6	94.3	94.6	94.1	89.5
D13 Coarctation of Aorta	156.7	151.5	152.4	141.9	127.8	132.6	120.0	125.3	117.1
D14 Pulmonary Artery Anomalies	67.3	65.1	68.0	68.9	70.7	62.3	62.7	58.5	51.9
D99. All Other Congenital Anomalies of the Heart and Circulatory System	118.7	116.7	113.8	112.7	112.3	111.3	112.7	107.4	100.9
Diagnostic Grouping	1992 to 1997	1993 to 1998	1994 to 1999	1995 to 2000	1996 to 2001	1997 to 2002	1998 to 2003	1999 to 2004	2000 to 2005
E Congenital Anomalies of the Respiratory System	182.4	190.6	197.8	190.5	164.6	152.7	142.4	129.0	111.4
E01 Lung Agenesis/Hypoplasia	700.0	691.9	679.5	672.4	634.2	600.0	548.2	495.8	464.4
E02 Choanal Atresia	70.2	80.4	81.8	77.6	85.9	87.6	51.1	*	*
E99. All Other Congenital Anomalies of the Respiratory System	65.3	65.5	70.1	63.6	55.7	60.7	58.3	59.2	51.5
Diagnostic Grouping	1992 to 1997	1993 to 1998	1994 to 1999	1995 to 2000	1996 to 2001	1997 to 2002	1998 to 2003	1999 to 2004	2000 to 2005
F Cleft Palate and Cleft Lip	67.3	59.7	60.5	52.5	48.8	51.2	57.2	64.6	64.7
F01 Cleft Palate	74.5	70.3	70.6	62.2	55.6	61.2	71.3	74.2	70.7
F02 Cleft Lip w and w/o Cleft Palate	63.1	53.4	54.5	47.0	45.0	45.7	49.6	59.6	61.5

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Moving Six-year Mortality Rates
(Continued)

Congenital Anomalies (740 - 759)

Diagnostic Grouping	1992 to 1997	1993 to 1998	1994 to 1999	1995 to 2000	1996 to 2001	1997 to 2002	1998 to 2003	1999 to 2004	2000 to 2005
G Congenital Anomalies of the Upper Alimentary Canal/ Digestive System	46.7	48.1	47.8	46.5	44.9	45.0	46.5	47.6	46.8
G01 Esophageal Atresia/ Tracheoesophageal Fistula	112.1	92.3	106.1	108.4	108.3	111.6	115.2	125.0	123.0
G02 Rectal and Large Intestinal Atresia/Stenosis	107.1	115.2	112.6	97.1	80.0	75.5	71.6	76.3	74.8
G03 Pyloric Stenosis	4.1	4.9	*	6.3	7.3	7.2	8.8	9.2	8.9
G04 Hirshsprung's Disease (congenital megacolon)	34.0	33.6	33.2	*	27.0	27.6	31.0	27.9	25.3
G05 Biliary Atresia	53.6	62.5	76.9	75.5	80.0	69.0	67.4	66.7	*
G99. Other Cong. Anomalies of Upper Alimentary Canal / Digestive System	65.4	71.0	73.3	69.7	71.1	72.0	72.6	72.6	69.9
Diagnostic Grouping	1992 to 1997	1993 to 1998	1994 to 1999	1995 to 2000	1996 to 2001	1997 to 2002	1998 to 2003	1999 to 2004	2000 to 2005
H Congenital Anomalies of the Genital and Urinary Systems	43.0	39.8	37.2	34.6	32.1	32.1	33.3	33.0	31.5
H01 Renal Agenesis/Hypoplasia	264.1	244.0	231.9	218.3	197.8	196.9	216.2	212.5	205.5
H02 Bladder Exstrophy	*	*	*	*	*	*	*	*	*
H03 Obstructive Genitourinary Defects	46.2	41.4	34.6	37.5	31.6	33.5	36.9	37.8	36.5
H04 Hypospadias & Epispadias	10.0	9.4	5.9	6.7	9.9	12.3	12.2	15.9	17.6
H99. All Other Congenital Anomalies of the Genital & Urinary Systems	36.9	34.8	33.9	31.4	29.7	30.1	30.8	30.3	28.4
Diagnostic Grouping	1992 to 1997	1993 to 1998	1994 to 1999	1995 to 2000	1996 to 2001	1997 to 2002	1998 to 2003	1999 to 2004	2000 to 2005
I Congenital Anomalies of the Musculoskeletal System	41.9	40.0	38.5	37.3	34.6	31.8	31.9	32.7	30.8
I01 Upper Limb Reduction Deformities	91.3	96.4	83.8	66.7	61.9	45.2	45.5	63.5	67.0
I02 Lower Limb Reduction Deformities	134.5	135.1	128.2	90.1	94.0	90.9	46.9	50.7	41.1
I03 Gastroschisis/Omphalocele	120.5	132.9	138.5	139.0	135.0	133.5	134.3	117.5	121.4
I04 Congenital Hip Dislocation	13.2	12.5	10.3	8.6	9.4	9.2	7.4	7.5	6.9
I05 Diaphragmatic Hernia	344.0	317.8	312.5	318.0	284.5	283.8	288.7	287.4	285.7
I99. All Other Congenital Anomalies of the Musculoskeletal System	35.3	33.0	31.0	30.1	28.0	25.6	25.4	27.1	25.2

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(Continued)

Congenital Anomalies (740 - 759)

Diagnostic Grouping	1992 to 1997	1993 to 1998	1994 to 1999	1995 to 2000	1996 to 2001	1997 to 2002	1998 to 2003	1999 to 2004	2000 to 2005
J Congenital Anomalies of the Integument	17.0	17.4	14.7	15.8	16.6	16.9	17.7	17.5	14.7
Diagnostic Grouping	1992 to 1997	1993 to 1998	1994 to 1999	1995 to 2000	1996 to 2001	1997 to 2002	1998 to 2003	1999 to 2004	2000 to 2005
K Chromosomal Anomalies	169.6	161.7	166.4	178.2	179.6	176.5	185.7	181.5	178.1
K01 Trisomy 13	697.9	647.1	671.1	730.8	727.3	743.2	777.8	808.2	789.5
K02 Down Syndrome	84.3	79.6	83.1	85.9	93.2	90.1	98.4	97.9	91.9
K03 Trisomy 18	864.1	835.1	825.2	813.7	798.1	740.7	707.3	696.7	684.7
K99. All Other Chromosomal Anomalies	91.9	96.7	108.5	133.8	142.4	146.9	165.4	157.8	169.9
Diagnostic Grouping	1992 to 1997	1993 to 1998	1994 to 1999	1995 to 2000	1996 to 2001	1997 to 2002	1998 to 2003	1999 to 2004	2000 to 2005
L Other and Unspecified Congenital Anomalies	153.5	164.9	160.0	138.6	117.5	104.0	98.9	94.7	84.9

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(Continued)

Other Reportable Conditions

Diagnostic Grouping	1992 to 1997	1993 to 1998	1994 to 1999	1995 to 2000	1996 to 2001	1997 to 2002	1998 to 2003	1999 to 2004	2000 to 2005
M Infectious Conditions Occurring in the Perinatal Period	62.5	66.0	71.2	80.9	97.0	99.3	101.9	101.9	102.0
M01 Syphilis	25.7	27.9	22.9	*	*	*	*	*	*
M02 Other Infections	102.2	96.5	95.2	102.8	120.2	116.4	121.0	114.8	114.1
Diagnostic Grouping	1992 to 1997	1993 to 1998	1994 to 1999	1995 to 2000	1996 to 2001	1997 to 2002	1998 to 2003	1999 to 2004	2000 to 2005
N Familial/Congenital Neoplasms	181.8	166.7	125.0	83.3	77.9	*	*	*	*
Diagnostic Grouping	1992 to 1997	1993 to 1998	1994 to 1999	1995 to 2000	1996 to 2001	1997 to 2002	1998 to 2003	1999 to 2004	2000 to 2005
O Endocrine/Metabolic Disorders	72.1	71.2	64.9	59.0	57.7	55.1	53.9	53.9	50.6
Diagnostic Grouping	1992 to 1997	1993 to 1998	1994 to 1999	1995 to 2000	1996 to 2001	1997 to 2002	1998 to 2003	1999 to 2004	2000 to 2005
P Diseases of the Blood & Blood Forming Organs	83.9	90.2	94.7	94.3	91.5	83.9	77.6	68.1	58.1
Diagnostic Grouping	1992 to 1997	1993 to 1998	1994 to 1999	1995 to 2000	1996 to 2001	1997 to 2002	1998 to 2003	1999 to 2004	2000 to 2005
Q Other Diseases of the Central and Peripheral Nervous System	74.0	72.7	65.1	56.0	52.1	49.6	46.3	38.0	33.4
Diagnostic Grouping	1992 to 1997	1993 to 1998	1994 to 1999	1995 to 2000	1996 to 2001	1997 to 2002	1998 to 2003	1999 to 2004	2000 to 2005
R Other Diseases of the Eye	31.0	30.7	27.3	28.3	30.5	31.7	33.6	32.8	30.5
Diagnostic Grouping	1992 to 1997	1993 to 1998	1994 to 1999	1995 to 2000	1996 to 2001	1997 to 2002	1998 to 2003	1999 to 2004	2000 to 2005
S Hearing Deficiency	26.9	23.4	14.3	11.5	7.9	9.5	12.7	12.7	11.9
Diagnostic Grouping	1992 to 1997	1993 to 1998	1994 to 1999	1995 to 2000	1996 to 2001	1997 to 2002	1998 to 2003	1999 to 2004	2000 to 2005
T Other Diseases of the Heart & Circulatory System	83.4	80.1	81.5	84.6	82.7	82.0	82.1	85.1	80.0

Table 21
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(Continued)

Other Reportable Conditions

Diagnostic Grouping	1992 to 1997	1993 to 1998	1994 to 1999	1995 to 2000	1996 to 2001	1997 to 2002	1998 to 2003	1999 to 2004	2000 to 2005
U Other Diseases of the Gastrointestinal System	43.9	43.4	41.8	39.4	38.6	41.0	41.0	39.4	37.2
Diagnostic Grouping	1992 to 1997	1993 to 1998	1994 to 1999	1995 to 2000	1996 to 2001	1997 to 2002	1998 to 2003	1999 to 2004	2000 to 2005
V Other Diseases of the Genital and Urinary Systems	*	*	*	*	*	*	*	*	*
Diagnostic Grouping	1992 to 1997	1993 to 1998	1994 to 1999	1995 to 2000	1996 to 2001	1997 to 2002	1998 to 2003	1999 to 2004	2000 to 2005
W Other Fetal/Placental Anomalies	*	-	-	-	-	-	-	-	53.1
Diagnostic Grouping	1992 to 1997	1993 to 1998	1994 to 1999	1995 to 2000	1996 to 2001	1997 to 2002	1998 to 2003	1999 to 2004	2000 to 2005
X Other Musculoskeletal System Diseases	-	-	-	-	-	-	-	-	-
Diagnostic Grouping	1992 to 1997	1993 to 1998	1994 to 1999	1995 to 2000	1996 to 2001	1997 to 2002	1998 to 2003	1999 to 2004	2000 to 2005
Y Maternal Exposures Affecting Fetus	34.5	29.0	29.9	27.2	29.8	29.6	33.6	35.0	31.2
Y01 Fetal Alcohol Syndrome	56.5	46.9	53.5	40.2	39.0	*	*	*	*
Y99. Other Maternal Exposures Affecting the Fetus	32.4	27.2	27.6	25.9	29.0	29.6	33.7	34.6	31.0
Diagnostic Grouping	1992 to 1997	1993 to 1998	1994 to 1999	1995 to 2000	1996 to 2001	1997 to 2002	1998 to 2003	1999 to 2004	2000 to 2005
One or More Reportable Diagnosis	47.1	46.7	46.3	45.3	43.7	42.9	42.5	41.1	38.0

Notes:

Rates are per 1,000 Michigan Born Resident Live Births. Rates represent the infant mortality rate for children with a diagnosed birth defect. The rates include all deaths within the first year of life to children reported with a birth defect who were born in Michigan and whose mother was a resident at the time of birth. Birth defect statistics sometimes reflect trends related to data reporting or new testing. See Data Quality Considerations for further details. **Conditions** are reportable if identified within the first two years of a child's life. The prevalence frequencies in this table represent cases diagnosed within the first year of life.

*: Figure does not meet standards of reliability or precision.

Diagnoses are coded using the 9th revision to the International Classification of Diseases - ICD 9 CM. Diagnostic Code Groupings used for congenital anomaly codes are as used by the Centers for Disease Control. (See Birth Defect Groups and ICD-9-CM Diagnosis Codes for the codes used to categorize birth defects.)

Source: Michigan Birth Defects Registry, Division for Vital Records & Health Statistics, Michigan Department of Community Health Reports Processed through April 15, 2008

Last Updated on September 29, 2008

Appendix A

The Michigan Birth Defects registry uses the 9th revision to the International Classification of Diseases (ICD-9-CM) to code diagnosis. Diagnostic Code Groupings used for congenital anomaly codes were established by the Centers for Disease Control.

Birth Defect Groups and ICD-9-CM Diagnosis Codes

Congenital Anomalies (740 - 759)

Diagnostic Grouping and Description	ICD-9-CM Code
A. Congenital Anomalies of the Central Nervous System	740-742
A01. Anencephalus	740.0,740.1
A02. Spina Bifida w/o Anencephaly	741.0, 741.9, w/o 740.0 or 740.1
A03. Hydrocephalus w/o Spina Bifida	742.3 w/o 741.0 or 741.9
A04. Encephalocele	742.0
A05. Microcephalus	742.1
B. Congenital Anomalies of the Eye	743
B01. Anophthalmos/Microphthalmos	743.00-743.06, 743.10-743.12
B02. Congenital Cataract	743.30 - 743.34
B03. Aniridia	743.45
C. Congenital Anomalies of the Ear, Face and Neck	744
C01. Anotia/Microtia	744.01,744.23
D. Congenital Anomalies of the Heart and Circulatory System	745-746
D01. Common Truncus	745.0
D02. Transposition of Great Vessels	745.10, 745.11, 745.12, 745.19
D03. Tetralogy of Fallot	745.2
D04. Ventricular Septal Defect	745.4
D05. Atrial Septal Defect	745.5
D06. Endocardial Cushion Defect	745.60, 745.61, 745.69
D07. Pulmonary Valve Atresia and Stenosis	746.01, 746.02
D08. Tricuspid Valve Atresia and Stenosis	746.1
D09. Ebstein's Anomaly	746.2
D10. Aortic Valve Stenosis	746.3
D11. Hypoplastic Left Heart Syndrome	746.7
D12. Patent Ductus Arteriosus	747.0
D13. Coarctation of Aorta	747.10
D14. Pulmonary Artery Anomalies	747.3
E. Congenital Anomalies of the Respiratory System	747 - 748
E01. Lung Agenesis/Hypoplasia	748.5
E02. Choanal Atresia	748.0

**Birth Defect Groups and ICD-9-CM Diagnosis Codes
(Continued)**

Congenital Anomalies (740 - 759)

Diagnostic Grouping and Description	ICD-9-CM Code
F. Cleft Palate and Cleft Lip	749
F01. Cleft Palate	749.00 - 749.04 w/o Cleft Lip 749.1 or 749.2
F02. Cleft Lip w and w/o Cleft Palate	749.1, 749.2
G. Congenital Anomalies of the Upper Alimentary Canal/ Digestive System	750-751
G01. Esophageal Atresia/ Tracheoesophageal Fistula	750.3
G02. Rectal and Large Intestinal Atresia/Stenosis	751.2
G03. Pyloric Stenosis	750.5
G04. Hirshsprung's Disease (congenital megacolon)	751.3
G05. Biliary Atresia	751.61
H. Congenital Anomalies of the Genital and Urinary Systems	752 - 753
H01. Renal Agenesis/Hypoplasia	753.0
H02. Bladder Exstrophy	753.5
H03. Obstructive Genitourinary Defects	753.20-753.29, 753.6
H04. Hypospadias & Epispadias	752.61, 752.62
I. Congenital Anomalies of the Musculoskeletal System	754 - 756
I01. Upper Limb Reduction Deformities	755.20 - 755.29
I02. Lower Limb Reduction Deformities	755.30 - 755.39
I03. Gastroschisis/Omphalocele	756.7
I04. Congenital Hip Dislocation	754.30, 754.31, 754.35
I05. Diaphragmatic Hernia	756.6
J. Congenital Anomalies of the Integument	757
K. Chromosomal Anomalies	758
K01. Trisomy 13	758.1
K02. Down Syndrome	758.0
K03. Trisomy 18	758.2
L. Other and Unspecified Congenital Anomalies	759

**Birth Defect Groups and ICD-9-CM Diagnosis Codes
(Continued)**

Other Reportable Conditions

Diagnostic Grouping and Description	ICD-9-CM Code
M. Infectious Conditions Occurring in the Perinatal Period	090.0 - 090.9, 771.0 - 771.2
M01. Syphilis	090.0-090.9
M02. Other Infections	771.0 - 771.2
N. Familial/Congenital Neoplasms	237.70 - 237.72
O. Endocrine/Metabolic Disorders	243, 252.1, 253.2, 253.8, 255.2, 255.8, 257.8, 259.4, 270.0 - 273.9, 275.3, 277.0 - 277.9, 279.11, 279.2
P. Diseases of the Blood & Blood Forming Organs	282.0 - 282.9, 284.0, 286.0 - 286.9, 287.3
Q. Other Diseases of the Central and Peripheral Nervous System	330.1, 331.7, 331.89, 331.9, 334.1, 334.2, 335.0, 337.9, 343.0 - 343.9, 345.6, 348.0, 352.6, 356.0 - 356.9, 358.0 - 359.9
R. Other Diseases of the Eye	362.60 - 362.66, 363.20, 369.00 - 369.9, 377.16, 378.0 - 378.9, 379.50 - 379.59
S. Hearing Deficiency	389.00-389.08, 389.10-389.14, 389.18, 389.2, 389.8, 389.9, 744.00- 744.05, 744.09
T. Other Diseases of the Heart & Circulatory System	425.0 - 425.4, 426.0, 426.10 - 427.42, 427.81 - 427.9, 434.0 - 434.9, 453.0
U. Other Diseases of the Gastrointestinal System	520.0 - 520.9, 524.00 - 524.19, 537.1, 550.00 - 550.93, 553.00 - 553.9, 560.2, 560.9, 565.1, 569.2, 569.81
V. Other Diseases of the Genital and Urinary Systems	593.3, 593.5, 593.82, 596.1, 596.2, 598.9, 599.1, 599.6, 619.0 - 619.9
W. Other Fetal/Placental Anomalies	653.7, 658.8
X. Other Musculoskeletal System Diseases	733.3
Y. Maternal Exposures Affecting Fetus	760
Y01. Fetal Alcohol Syndrome	760.71